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# USSR Report

MILITARY AFFAIRS

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15 June 1983

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## MILITARY-POLITICAL ISSUES

### REVIEW OF M. G. SOBOLEV'S 'PARTY POLITICAL WORK'

Moscow SOVIET MILITARY REVIEW in English No 4, Apr 83 pp 57-58

[Article by Captain 1st Rank V. Drozdov]

[Text]

The author, Colonel-General M. Sobolev, Deputy Chief of the Main Political Administration of the Soviet Army and Navy, writes in a booklet entitled "Party Political Work"\* that in order to correctly assess an army's fighting efficiency one should have an idea not only of its armament but also the level of discipline, staunchness in battle and its morale. The main force on the battlefield was and remains the individual. Success in combat depends on how man's consciousness is formed, i.e. what his morale, views and thoughts are.

As is well known, the main influence on a person is the character of relations in the society surrounding him. Socialist social relations educate a staunch, ideologically convinced citizen and patriot possessing high moral qualities. However, the communist consciousness cannot evolve spontaneously, by itself. It has to be formed actively and purposefully. This task is solved in the Soviet Armed Forces by Party-political work which, as the author defines it, includes ideological and Party and organisational activity of the commanders and political bo-

dies, Party organisations and Communists of the army and navy.

The chief mission which the Party and political activity is to pursue — is implementing the CPSU's policy in the Armed Forces, educating the personnel in the ideas of Marxism-Leninism, and mobilising the servicemen for exemplary fulfilment of their service duty. The Party-political work embraces a large number of questions concerning the training and service of the men, their study and education, and moral, political and psychological training.

The booklet consists of four chapters, each of which reflects a definite step in the development of Party-political work in the Armed Forces.

In the beginning of the booklet the author acquaints the reader with the situation in the country during the Civil War and military intervention in Russia (1918-20). The formation of the young Soviet state proved to be a new and extremely difficult undertaking, the booklet points out. Dislocation reigned in the country. There was an acute shortage of food, armament and clothing. These difficulties were com-

pounded by the lack of the command personnel loyal to the cause of the revolution.

In these conditions the military commissars, whose appointment to units and ships was consolidated by legislation in July 1918, played a great part in creating the young Red Army. In the army and navy military commissars were immediate political representatives of the Communist Party and the Soviet state. They were called upon to supervise the activity of military specialists, to use their knowledge and experience for strengthening the defence of the Soviet state. This determined their primary, mainly supervisory functions. But side by side with this, the author underscores, commissars concentrated in their hands the political leadership of the forces from the first days of their activity, educating them in the spirit of devotion to the Soviet system, in the spirit of high revolutionary discipline. To illustrate, some examples, excerpts from the documents of those years which testify to the difficult conditions in which the military commissars carried out their activity, are cited in the booklet.

It emphasises that thanks to the efforts of the Communist Party and its Central Committee headed by V. I. Lenin, the problem of forming the Party-political personnel of the young Red Army and training cadres for organising Party-political work was successfully solved. The important role here was played by the military reform of 1924-25 which made it possible to preserve the main core of the army. The military reform introduced the one-man command principle and became one of the most important principles of building the Soviet Armed Forces.

The author elucidates how one-man command consolidated in the army while former commissars became deputy commanders for political affairs. Jointly they consolidated one-man command and discipline, and organised military collectives of like-minded men united by common missions, in battalions, regiments and divisions.

The war unleashed by the nazis against the Soviet people demanded a radical reorganisation of Party-political work. It boiled down, first of all, to the fact that political bodies and Party organisations had to subordinate their activity to the main mission — routing the hated enemy. This required improving the style of their work, a search for the most effective forms and methods of educating personnel to act in combat situations.

The author analyses the activity of the agitator, who became the main figure in the propaganda work with the personnel, and political workers who were able to find the right tone in the work with men and had authority with soldiers. He writes warmly about rank and file Communists on whom the burden of struggle against the invaders lay. Three million Communists fell in action and five million Soviet patriots replenished the ranks of the Party in those gruelling years. During the war the Leninist Party was indeed a fighting Party.

Dealing at length with the most interesting and attractive forms and methods of the political education of the fighting men in the defensive and offensive operations of the Soviet forces, the author writes: "It is difficult and even impossible to specifically frame Party-political work during grim war years. During lulls political workers briefed the servi-

cemen on current affairs, held seminars, and generalised the experience of the best fighting men in order to draw on it subsequently in working with the young, raw troops. A talk, seminar, Party meeting and delivery of a fresh newspaper — all this constituted Party-political work.

War is war. But despite its difficulties political workers spared no pains to see that soldiers were served food in good time, kept warm and those wounded rendered medical aid. All this was also Party-political work."

The final chapter of the booklet deals with the present-day stage of the development and improvement of Party-political work in the Armed Forces.

The booklet deals at length with the framework of the organisation of the Party and political apparatus in the Soviet Armed Forces and throws light on the activity of its major link — the political body in a regiment. The author illustrates his reasoning on the

example of a Mts. Inf. Reg. which took part in battles of the Great Patriotic War and was awarded two Banners of the USSR Minister of Defence. The successes of the advanced collective are inseparably connected with consistent, concrete and purposeful Party-political work carried out by political workers, Party and YCL activists.

The booklet is illustrated. It gives the reader an understanding of the great importance of Party-political work in educating the Soviet fighting men and developing in them lofty moral qualities. The vast historical experience shows that Party-political work in the Soviet Armed Forces is carried out under the leadership of the Communist Party. As everything living, it is being continually improved with due account for the versatile experience of Party development in the interests of enhancing combat readiness of the Armed Forces which vigilantly safeguard the Soviet people's peaceful labour.

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IMPROVING OFFICERS' LEADERSHIP SKILLS

Moscow SOVIET MILITARY REVIEW in English No 4, Apr 83 pp 29-30

[Article by Colonel B. Panteleyev]

[Text]

**O**FFICER personnel play an exceptionally important role in the construction and strengthening of the Soviet Armed Forces. Relying on Party and YCL organisations, and army social organisations, they instruct and educate servicemen, and organise their socio-political activity.

An officer's influence on his subordinates largely depends on his pedagogical skills. The pedagogical skills of a commander, political worker or military engineer consist in his ability to use scientifically grounded methods of influencing his subordinates in the process of instruction and education, and in a highly ethical and humane attitude to them.

To solve educational tasks successfully, an instructor must above all be a person of strong ideological convictions. Soviet officers are characterised by political maturity, communist convictions, selfless devotion to their duty and the Homeland, discipline, honesty and truthfulness. Their moral qualities and exemplary behaviour are an example to servicemen in strictly observing the norms of communist ethics and the requirements of the Oath of Allegiance and regulations, and provide favourable conditions for successful solution of educational tasks.

The level of an officer's pedagogical influence on his subordinates also depends on his special military training standard. Military regulations require that an officer possess such moral and combat qualities as determination, initiative, self-control, persistence, courage, etc. Most popular with the men are educators who are highly proficient in military subjects and constantly improve their military and technical training level. For instance, the name of Major V. Khodyakov is widely known in the Order of the Red Banner Baltic Military District. The artillery battalion under his command is



the best in the regiment. The majority of the men have excellent results in combat training and political education, and complete interchangeability in the crews has been achieved. The pace in everything is set by the commander, who is highly proficient in military matters and technology and well versed in the functioning of artillery systems and their use in battle. Therefore, Major Khodyakov's subordinates look upon him as an example to follow and strive to operate the gun as competently and confidently as he does.

As any educator, an officer must have a profound knowledge of the fundamentals of pedagogy and psychology, the principles and methods of education and specifics of the pedagogical process. It is most important clearly to realise ways of achieving a unity of instruction and education, and of intellectual and physical development of the personality.

A military educator's pedagogical skills are reflected in his ability deeply to study his subordinates and their individual qualities, and proceeding from the results of these studies, to find efficient methods and means of influencing people. Experienced officers always strive to discern their subordinates' positive qualities and show a creative approach to choosing educational means and forms. Pedagogical resourcefulness, initiative and trust in people are reliable paths to success. This can be confirmed by numerous examples.

Senior Lieutenant M. Pechenin was posted to a sapper subunit as deputy company commander for political affairs. Soon he learned about Private A. Umarov, who was behind his comrades in combat training and violated military discipline occasionally. Pechenin had a talk with Umarov and his fellow-servicemen, and found out the following. Once Umarov broke the requirements of an article of the Interior Service Regulations. From that day his commanders' and comrades' attitude towards him drastically changed for the worse. He was not given serious assignments any longer. The soldier's striving to atone for his guilt often remained unheeded. This affected his dignity, and he became indifferent to his service duties.

One day the subunit went for a tactical exercise. On the march a vehicle broke down. Aware that Umarov worked as automobile repairman before call-up, Pechenin ordered him to help the young driver with the repairs. The mission was carried out successfully. During the critique at the end of the march Pechenin commended Umarov. The political worker's attention uplifted the soldier's spirits and imparted fresh energy to him.

When laying a bridge across a river Private Umarov acted competently and efficiently. On Pechenin's advice the platoon commander suspended the previously imposed punishment.

Private Umarov's industriousness at other lessons did not go unnoticed either. After some time he received a commendation. The soldier became more exacting towards himself, and studied diligently. Thus began his ascent to the heights of the military profession. By the end of the academic year he became an excellent soldier.

Pedagogical tact is a component of pedagogical skills. A tactful commander helps develop servicemen's interest in mastering their profession, initiative and a creative approach towards their duties. Many soldiers, sergeants and officers have retained for years warm memories of their commanders and political workers, who treated them with trust and respect. S. Neustroyev, a participant in the Great Patriotic War (1941-45), then commander of a battalion which stormed the Reichstag, recalls in his memoirs Major-General V. Shatilov, division commander. He writes: "The division commander's behaviour, actions and ways emanated nobility and respect for his subordinates. Never did he abuse or humiliate a soldier or commander, who had been unlucky in battle."

The foundations of an officer's pedagogical skills are laid at military school, where students extensively study Marxist-Leninist teaching, which provides the theoretical basis for political and educational work. Quite a few hours are allotted to studying military pedagogy and psychology. Future officers are taught to expound their ideas logically, draw clear-cut conclusions, keep the attention of the audience and conduct individual work with subordinates.

An analysis of curricula in various military schools shows that future educators are formed in the process of studying all subjects without exception. The course in Party-political work, pedagogy and psychology deals mainly with the role of the commander as educator and instructor for his subordinates. Curricula in tactical, fire and technical training examine the functions of a military specialist, leader and organiser.

Future educators consolidate their theoretical knowledge during probationary training in the forces. Students conduct lessons independently, take part in Party-political work in subunits, units and on ships, and study forms and methods of organising the personnel's political and military education.

Service in a unit or on a ship is vital for an officer in acquiring and improving pedagogical skills.

The first few years of service in the forces after graduating from a military school are the most difficult period in the making of a young educator. The process of instruction and education for him is a practical task, for the proper fulfilling of which

he bears full responsibility. Experienced educators highly proficient in method always come to young officers' assistance.

Commanders, their deputies for political affairs and Party and YCL organisations thoroughly consider plans of work with young officers. For example, theoretical talks and seminars are regularly organised for lieutenants in the unit where Major A. Galkin is a political worker. These seminars deal with problems of servicemen's instruction and education and of improving educators' pedagogical abilities. Special attention is paid to the experience of individual work with subordinates, the correct combination of the methods of persuasion and coercion, and the ability to prevent disciplinary offenses by prognosticating servicemen's behaviour. Readers' conferences dealing with memoirs by prominent Soviet military leaders, lectures and reports are also organised in the unit. A ten-man methods council is functioning on a voluntary basis. Its members study, generalise and keep the young officers informed of the positive experience of servicemen's education.

In their pedagogical activity Soviet officers take into account the personnel's high general education level. Modern servicemen are people with great intellectual needs and diverse interests.

Independent work is the main method of improving one's knowledge and upgrading one's pedagogical skills. Many officers draw up individual plans of self-education. Such plans, generally drawn up for one or two years, include several items. For instance, the first item of Lieutenant A. Gavrilov's individual plan provides for the study of original literature recommended by the programme of Marxist-Leninist preparation; the second item includes a list of books on Party-political work, military pedagogy and psychology; the third item contains questions of special training, etc. Individual plans also envisage preparation of lectures, reports and articles to be published in the local military press, and participation in the study and generalisation of the experience of Party and educational work. These and other items are distributed according to definite dates, depending on the amount of work the officer is assigned.

Thus, an officer's pedagogical skills are a combination of his knowledge and practical abilities. This combination predetermines the quality of servicemen's instruction and education.

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### EFFECTIVE USE OF MILITARY ROBOTS

Moscow SOVIET MILITARY REVIEW in English No 4, Apr 83 pp 26-27

[Article by Colonel N. Kozlov, Cand. Sc. (Technology), and Asst. Professor, Senior Lieutenant Engineer Ye. Balanin]

[Text]

THE WORD "ROBOT" WAS COINED BY THE CZECH WRITER K. CAPEK. IT HAS SPREAD ALL OVER THE WORLD IN THE WORKS OF SCIENCE FICTION WRITERS MEANING "MAN-MACHINE." BUT IN SCIENCE AND TECHNOLOGY THE WORD "ROBOT" MEANS NOT MAN-RESEMBLING MACHINES BUT THOSE OF THEM WHICH PARTIALLY OR COMPLETELY PERFORM MAN'S FUNCTIONS DURING INTERACTION WITH THE ENVIRONMENT.

**A**T PRESENT there exist several hundred robot models, including military ones. Take, for example, the oldest fighting arm — artillery. Here the first assistants of artillery crews in creating robots were wooden wedges artillerymen used to eliminate the effects of the recoil force which appeared at the instant of firing and interfered with aiming.

Before wedges came into use, the crews had to make great efforts to return the gun to the initial position after each shot. With the wedges, the gun at the instant of firing rolled onto them and after the end of firing returned to the initial position by itself.

Wedges were in service with the terrestrial and naval artillery till the last quarter of the 19th century until the Russian designer Vladimir Stepanovich Baranovsky developed a robot later called a "coun-

terrecoil mechanism." It was located right on the gun and in addition to subduing the recoil force, provided flexible linkage between the barrel and the carriage. Baranovsky's robot comprised a hydraulic recoil brake and a spring recuperator. The mechanism was rigidly secured to the barrel and butted up against the carriage. At the instant of firing, it strained all its "muscles" to brake the recoil. After the shot it "straightened" itself and returned the barrel to the original position. The advantages of this robot were so great that to this day it remains a component part of any artillery piece.

Many contemporary counterrecoil mechanisms are sophisticated hydropneumatic systems comprising a recoil brake, recuperator and counterrecoil buffer. They are capable of self-adjusting to fir-

ing conditions based on the information received. For example, if the temperature of the liquid in the recoil brake and counterrecoil buffer changes, its volume is automatically maintained constant by the liquid compensator without man's intervention. Besides, hydraulic brakes can automatically adjust the length of recoil during firing. Such self-adjustment maintains the length of barrel recoil under the action of the recoil force within the limits of the prescribed tolerances, irrespective of the size of the propellant (powder) charge and the barrel elevation angles. If the speeds of the recoiling parts exceed calculated ones, the force of the recoil brake hydraulic resistance increases as a result of self-adjustment, and if the recoil speed decreases, the hydraulic resistance force decreases as well. All man has to do is to check the robot's "behaviour."

The effectiveness of fire depends in many respects on robots designed to open the breechblock and cock the firing pin, eject the spent cartridge case and close the breechblock after loading the gun, and to ensure safety during firing (for example, to prevent firing if the breechblock is not completely closed).

Among the jobs performed by artillery, and not only artillery, robots are solving navigational problems such as determination of coordinates of subunit combat formations and column leading (vehicle driving) on terrain, especially in the areas having no visible reference points, in forests, steppes, deserts and also in darkness.

Some other robots are responsible for disease prevention. For example, in tanks and self-propelled gun mounts

they ensure scavenging of the barrel bore and ventilation of the fighting compartment after firing to prevent the crew from being poisoned with carbonic oxide.

Automatic control devices are also widely used for military purposes. They are based on an idea suggested in the 18th century by the Russian inventor I. I. Polzunov. It consists in the automatic response of the measuring instrument to any deviation of the controlled value from the required one, using a feedback.

A regulator built according to Polzunov's principle consists of setting, measuring, converting, executive and sensor elements. Such functional diagrams are characteristic of robots successfully used to control aircraft, ships, etc. (They are often called transport robots). Missile control systems can be also placed into the same category.

Biotechnical robots occupy a special place among the robots employed in the army and navy. They include, for example, remote-controlled, coping and semi-automatic robots. The actions of a man-operator in these robots are coordinated, in various versions, with the operation of automatic equipment in the process of control and data processing.

Copying robots consist of a setting device and facilities for the transmission of direct and feedback signals. The movement of the setting device is formed by man and is then copied by the executive organ with the help of transmitting devices. Such robots were installed on antitank guided missiles of the first generation.

When guiding the missile to the target the man-operator

and the robot cooperate in the following way. By aiming the sight to the target, the operator sets the required trajectory, then visually determines deviation of the missile from it and displaces the control stick accordingly. At this stage he transfers control of missile guidance to the robot which converts stick displacements into electrical signals changing the position of missile control surfaces.

An example of semi-automatic robots is the guidance systems of second-generation antitank missiles. Man intervenes in their independent operation not by changing over to manual control but by supplying additional information (target designation). In that case man performs the functions of a setting organ, all the others being handled by the robot.

More and more often the armed forces receive robots to which man shifts not only physical loads and simple routine computations, but also complicated functions of an intellectual nature, reserving only the decision-making for himself. A good illustration to the above-said is an example from the field of air defence equipment. As soon as an enemy aircraft enters the operative range of the robot, the latter determines, with the aid of measuring instruments, its

speed, heading, altitude and other parameters required for target engagement. The brain center calculates the point of rendezvous, that is a point in space to which a shell or missile is to be directed to meet the target. After that it transmits, via radio or wire lines, instructions required to prepare firing (launching) to the executive organs of guns or launchers. Instructions are transmitted with the speed of light and are received not by ordinary telephone sets but by instruments capable of perceiving commands transferred at speeds that exceed by several thousand times that which man can perceive. While waiting for a command from man, the robot follows the target flight.

As we can see, robots surround us. They greatly facilitate military labour. At the same time it is necessary to remember that no matter how "clever" these robots may be, they are still man-made machines. They are incapable of displaying emotions or creativity. They operate strictly in accordance with the preset algorithm and cannot feel joy in case of success or sorrow in case of failure. The effective use of robots completely depends on servicemen, their skill and level of mastering combat weapons and equipment.

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## ARMED FORCES

### BIOGRAPHY OF S. M. BUDYONNY

Moscow SOVIET MILITARY REVIEW in English No 4, Apr 83 pp 34-35

[Article by Colonel L. Kozlov, Cand. Sc. (History)]

[Text]

Marshal of the Soviet Union Semyon Mikhailovich Budyonny, a legendary hero of the Civil War, a true son of his people and a talented military leader, is widely known as an outstanding builder of the Soviet Armed Forces and organiser of the defence of the world's first socialist state.

Time and again during the Civil War (1918-20) he led cavalry regiments into attacks, and won many a victory with his men at Tsaritsyn and Voronezh, on the Don and Kuban, and in the Ukraine and Crimea, breaking into the enemy ranks with lightning speed. Even the staunchest and excellently equipped enemy units could not hold out against the daring and stunning attacks of Budyonny's men.

In the autumn of 1919 General Denikin's White Guard forces tried hard to break through to Moscow, the heart of the Soviet Republic. Red Army units and formations fought the enemy selflessly and gallantly. In those battles Budyonny's cavalry corps particularly distinguished itself. Making a skillful manoeuvre, Budyonny's troops utterly defeated crack Cossack divisions under White Guard generals Mamontov and Shkuro by dealing them a crushing blow in the Voronezh-Kastornaya sector. Voronezh was recaptured. Having struck a shattering blow at six enemy divisions, two divisions commanded by Budyonny sealed the 100-km gap

in the Soviet defences at Moscow.

That victory placed Budyonny's name among those of the most prominent military leaders. His fame resounded throughout the entire country. The very mention of his name inspired fear in the enemy.

By that time Budyonny had performed quite a few feats of arms, which the Soviet country valued at their true worth. In March 1919 he was awarded the Order of the Red Banner for competent control of cavalry troops and personal courage in battles. Several months later he was awarded an Honorary Revolutionary Weapon — a golden sword bearing the inscription: "To a National Hero."

In that same grim year of 1919, Budyonny joined the Communist Party. He was recommended by Party veterans K. Ye. Voroshilov, J. V. Stalin and Ye. A. Shchadenko.

Marshal S. M. Budyonny's life was not an easy one. He was born on April 25, 1883 into a poor peasant's family at the farmstead of Kozyurin near the stanitsa (Cossack village) of Platovskaya not far from Rostov-on-Don. As a boy, he had to toil for reach peasants to earn a living.

In 1903 Budyonny was enrolled in the army. His service began in the Don Cossack Regiment which took part in the Russo-Japanese War of 1904-1905. Nine years later he fought at the fronts of the First



World War with a dragoon regiment of the Caucasian Cavalry Division as a non-commissioned officer. For exceptional bravery he was honoured with the Cross of St. George, all four classes.

In 1917 the revolutionary events in the rear and at the front were gaining momentum. The country was going through the transition from the bourgeois-democratic February Revolution to the proletarian October Revolution. The masses of soldiers at the front were seething like a beehive. Budyonny, who took their aspirations and people's hopes to heart, was growing more and more convinced of the righteousness of Lenin's cause. And it was not fortuitous that in the summer of 1917 the cavalrymen elected the bold deputy platoon commander chairman of the regimental and deputy chairman of the divisional committees of the Caucasian Cavalry Division stationed at Minsk, where he met the outstanding future general M. V. Frunze. Close cooperation with the latter taught Budyonny the ability to orient himself in the political situation, and to convince people and lead them.

On his return to Platovskaya in the winter of 1918 Budyonny and his fellow-soldiers fought for Soviet power on the Don. He was elected a member of the Salsk District Soviet. Budyonny formed a cavalry detachment out of poor Cossacks. Shortly afterwards the detachment was reorganised into a regular Red Army cavalry regiment, and then into a cavalry division. The highly manoeuvrable battle-steeled units under Budyonny played an exceptional role in the struggle against the counter-revolutionaries on the Don.

In June 1919 Budyonny became commander of a cavalry corps, which formed the core of the famous First Cavalry Army raised in November of the same year. Led by their commander, the army traversed a glorious path, fighting at many fronts of the Civil War.

Late in 1919 Budyonny's men cut into General Denikin's forces with a powerful thrust and rushed on southward. The panic-stricken enemy

fled under the onslaught of the Soviet forces. The Soviet cavalrymen followed him incessantly, destroying one grouping after another. In the frosty January of 1920 Budyonny's men, having crossed 150-odd km over the snow-covered Salsk steppes, routed the last enemy grouping near Yegorlykская Station in cooperation with other Red Army units. The destiny of Denikin's troops was sealed. Their remnants rolled back to Novorossiisk.

Having performed an unprecedented 1,000-km march in the spring of 1920 from the northern Caucasus to the Ukraine, the First Cavalry Army engaged the troops of bourgeois Poland. In the autumn of 1920 Budyonny's cavalrymen crushed General Wrangel's White Guard troops in the southern Ukraine. Later on they fought their way into the Crimea. Assessing the role played by the First Cavalry Army, M. V. Frunze wrote: "There is no other unit in our army which embodies so completely, clearly and profoundly the nature of the Red Army, and whose actions reveal the essence of the Civil War... Its operations are a brilliant page in the history of the cavalry."

During the Civil War Budyonny's talent as a military leader and his boundless devotion to the Party and the cause of the October Revolution manifested themselves with full clarity. He possessed such qualities as revolutionary scope and practicality, a deep and lucid intellect, a strong feeling of friendship and comradeship, straightforwardness, will-power and firmness.

Lenin valued highly Budyonny's combat and revolutionary qualities. Clara Zetkin, a leader of the German Communist Party, recalled a conversation with Lenin, who said in part: "Our Budyonny today must be considered the world's most brilliant cavalry commander. You know, of course, that he is a peasant boy. Like the soldiers of the revolutionary French army, he carried his baton in his knapsack, or in his saddle bag, to be exact. He had a

keen strategic instinct. He is courageous to the point of extravagance, of reckless audacity. He shares with his cavalymen the most severe hardships and the gravest dangers."

The years between the Civil and the Great Patriotic wars were a period of strenuous work for S. M. Budyonny. Holding responsible posts, including those of Commander of the Moscow Military District and First Deputy People's Commissar of Defence of the USSR, he spared no effort in building up and strengthening the Soviet Armed Forces.

In 1932 he graduated from the Frunze Military Academy. He continued to perform his service duties while studying at the academy. On November 20, 1935 he was promoted to the rank of Marshal of the Soviet Union.

At the very beginning of the Great Patriotic War S. M. Budyonny was posted to Supreme Command GHQ, which sent him more than once to various sectors of the front with important missions. Nor was it fortuitous that he, a national hero, was instructed to command the historic

parade in Red Square on November 7, 1941, when the enemy was at Moscow's gates.

After the Great Patriotic War Budyonny did extensive public work, paying much attention to the patriotic education of Soviet youth.

Budyonny was a delegate to numerous Party congresses, and since 1934 was elected several times a member of the CPSU Central Committee and deputy to the USSR Supreme Soviet of the 1st to the 8th convocations. Since 1938 he was member of the Presidium of the USSR Supreme Soviet. Budyonny was thrice Hero of the Soviet Union, a bearer of nearly fifty foreign Orders and medals, and was awarded an Honorary Revolutionary Weapon three times.

Marshal S. M. Budyonny died on October 26, 1973. He was buried in Red Square at the foot of the Lenin Mausoleum. The eventful life and fruitful activity of S. M. Budyonny, a national hero and military leader, are an example of selfless devotion to the Party and the Homeland.

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## ARMED FORCES

### CAREERS OF THREE BROTHERS IN USSR ARMED FORCES CITED

#### Personalities, Careers Described

Moscow KRASNAYA ZVEZDA in Russian 23 Feb 83 p 4

[Article by Col V. Vasil'yev: "Brothers--Military Dynasties in the Service of the Homeland"]

[Text] Where did the Aushev military dynasty begin? Was it the civil war, in which Yusup Aushev fought? Or was it that day in June of 1941, when Yusup Aushev, a kolkhoz chairman from the Ingush village of Sukharkhi, famed for its revolutionary traditions, brought his eldest son, 16-year-old Khadzhibikar, to the military commissariat?

"He is eighteen," the veteran assured the military commissar. "There is a mistake in his birth certificate." And Khadzhibikar Aushev went to the front. He fought until the Victory was achieved. He returned to Sukharkhi covered with wounds and with combat decorations.... The wounds took their toll. A red star still shines on the house in which Khadzhibikar lived, in honor of the valorous soldier.

Or perhaps the military dynasty began when Adam and Ruslan, sons of the journalist Sultan Yusupovich Aushev, entered the Ordzhonikidze Higher Combined-Arms Command School imeni Marshal of the Soviet Union A.I. Yeremenko? Bagautdin, youngest of the Aushev sons, was following in their footsteps when he entered that school a few years later.

And so it happened that three Aushev brothers joined the officer corps.

They are amazingly alike in appearance. Tanned faces with mustaches and open, sincere smiles. They have penetrating, inquiring minds and eyes always ready to light up with laughter. They speak slowly, guilelessly and calmly, but always there is a feeling of awkwardness, as though they sense that they are talking too much, while their men there....

Their physical similarity is not the main thing, however. All three brothers seem to share exactly the same personality. They combine discipline and efficiency of the highest order with a creative approach to the job and a search for innovations. We have to mention one other characteristic, which the Aushev brothers share--their ability to establish a real rapport with their subordinates, a closeness with the people.

The best known of the brothers is Hero of the Soviet Union Ruslan Aushev. He showed his character when he was only 5 years old, when he went to school without anyone knowing about it, even his parents. Large for his age and capable, he studied an entire week. Ruslan cried bitterly when the teacher learned his real age and sent him home. He could read and write as well as the others, after all. His father comforted him, told him that men do not cry, and then went to the school and tried to bring the director around to his way of thinking. The schooling had to be put off, however.

This was the first show of independence in the life of Ruslan Aushev, now a student at the Military Academy imeni M.V. Frunze.

I first heard of him several years ago, when I was summarizing experience in the organization of tactical exercises in the mountains. At that time the motorized rifle battalion commanded by Senior Lieutenant Aushev was in first place in the regiment in all of the categories--from tactical training to mass sports work and amateur artistic activities. Aushev had especially thoroughly worked out matters pertaining to the organization of an offensive in high mountains. Small but powerful groups operating from ambush and the sealing off of gorges and passes were employed in his battalion before they were employed anywhere else. And there were many other tactical innovations, "minor" at first glance but important to the outcome of a battle.

Combat operations in mountains have specific aspects. Senior Lieutenant Ruslan Aushev studied those peculiarities with his inherent meticulousness and generously shared his expertise with others.

Aushev had barely taken over command of the battalion, when he tossed out the slogan: "Stamina, flexible tactics and powerful fire are the most important thing in the mountains." Even those officers who were his closest assistants did not understand right away why these apparently obvious facts were being spoken of with such meaningfulness. There was nothing new in these things, was there? The battalion commander's practical instructions revealed the significance of the slogan.

Every morning, no matter what the weather was like, the battalion went out for a cross-country run with the commander at the head. They ran through foothills, through rocky areas and up steep slopes. And they developed stamina and good physical conditioning.

Aushev also introduced some innovations into the operational tactics. He made especially skilful use of a standing reserve of grenade throwers (jokingly referring to them as "hussars"). If any subunit needed help (a signal was sent out with flares), the grenade throwers were rushed to its position. After assuring the success, they returned to their usual place in the combat formation.

Battalion commander Aushev was the first in the regiment to use night drills "by azimuth." One of the subunits would be assigned the mission of going to a designated area and occupying a defense there. The other companies, moving by azimuth (the course would be altered six or seven times), had to find the positions occupied by the "enemy" and capture the strongpoint.

Many people were surprised when they saw in the plans which Aushev made up for tactical exercises, along with strictly tactical elements... evenings of discussion on special subjects, performances by amateur groups and sports festivals.

"Morale is also very important," the battalion commander would say in defense of his position. "It has to be excellent."

Not only did he plan and arrange such activities, he also personally set the tone for them. Once, the mortarmen were having an evening discussion. It started off well. The soldiers and sergeants told about their native parts and the labor achievements of the people there. The individual in charge of the discussion wanted to sum up the evening. Senior Lieutenant Aushev advised him to end the evening with a competition in the performance of ethnic dances, and he went first. He danced the fiery "lezginka." The mortarmen came to life, and one after another they entered the circle. The evening ended with the singing of a song about the homeland.

The soldiers responded to the battalion commander's attention, concern and spiritual sensitivity with love and a fervent desire to perform every task in an exemplary manner, ignoring all difficulties. I would like to tell about one such incident.

It was time for Aushev to leave for the academy. Upon receiving his papers, he headed for the battalion. The sentry at the entrance told him:

"You can't go in now, Comrade Captain."

"What do you mean? Why not"?

Later, it all became clear. An amateur battalion artist was just completing a portrait of the commander, a parting gift from all the personnel.

Ruslan's brothers also did well in the service. After several years of commanding training subunits, Captain Adam Aushev was made chief of staff of a battalion in the Transbaykal Military District. Senior Lieutenant Bagautdin Aushev was commander of a motorized rifle company in the Far East Military District. I do not know whether or not the brothers discussed the matter, but they almost simultaneously submitted requests for transfer to the formation in which Ruslan was serving.

The decision was the same in both cases: "Refused."

Sometime later the brothers submitted their requests again, with reference to the fact that their tours of duty at the current locations were coming to an end. This time the decision was different: "The matter has been discussed." The brothers were shown a promotion list. Their names stood at the top, both alphabetically and on the basis of merit.

The Aushev brothers then wrote what they thought were persuasive letters to the Main Personnel Directorate of the USSR Ministry of Defense. The main argument they gave was the fact that it has always been encouraged in the Soviet Armed Forces to permit brothers to serve in the same unit.

The transfer to the new station took place. Adam became chief of staff of the battalion which Ruslan had formerly commanded... Because no slots were available, Bagautdin was appointed commander of a platoon. A few days before my visit to the unit, the junior Aushev was promoted, or more accurately, returned, to a company.

Adam was lucky. He met Ruslan at the airfield and talked with him for a full half-hour. Bagautdin did not even get to see Ruslan.

Captain Adam Aushev distinguished himself during the very first days in his new position. A critical situation developed in a tactical exercise in the mountains. At this point the battalion chief of staff was assigned a hypothetical problem by the superior chief:

"I am taking the battalion commander out of action. Take over the command of the battalion."

The decision Aushev made was well conceived. It was the sensible decision, and it assured success for the subunit.

He is now in another garrison, where he commands a battalion. He is immersed in the work. "I haven't done anything out of the ordinary yet," he says. "Come back in 3 or 4 months."

Bagautdin, youngest of the brothers, is also entirely taken up with the work. It is his duty to preserve and add to the traditions in the unit in which his brother, a Hero of the Soviet Union, served. He has an abundance of energy. And he takes hold of things with tenacity, just like Ruslan and Adam.

The brothers love each other dearly. They are very proud of their father. "All of the best things in us," Bagautdin told me as we were parting, "we got from our father. In his last letter, dad wrote: 'I'm proud of you, and I hope that you will not let us down'."

The brothers do not agree on one thing--which of them will marry first. The parents do not interfere in this matter. "Adam should set the example," Ruslan says. Adam does not agree, however: "No, it should be Ruslan. He is a hero. He should take priority in everything." Bagautdin secretly admitted, however: "I'm not going to wait for them...." "Do you have a fiancée?" I asked him. "Yes, I do, and what a girl!"

...Leaving his suitcase on the street, Ruslan Aushev almost ran into the yard, where neither the walls nor the table set for the "guest" were visible through the grapevines. With tears in her eyes, Tamara Isultanovna, Ruslan's mother, clung to the broad chest of her son. The father, tall and gray-headed, stopped the demonstration of emotion with a stern glance. Our son is a proud man, he indicated, and not accustomed to showing his feelings. He only patted Ruslan's bowed head, as he had done 10 or 15 years before. And that was all. "Let's go inside." The medals "For Labor Distinction" and "For Development of the Virgin Lands," pinned on for the occasion, revealed the feelings of Aushev senior. How could one not be proud of sons such as these?

## Background on Brothers

[Editorial Report] A feature profiling Senior Lieutenant Ruslan Aushev, entitled "Battalion Commander Aushev: On Afghan Territory," was published in KRASNAYA ZVEZDA on 9 October 1981. This front-page article praised Senior Lieutenant Aushev for skillful leadership and for "setting a fine example of personal courage and valor." A translation of this article appeared in JPRS report 81426 of 2 August 1982. On 6 October 1982, KRASNAYA ZVEZDA carried a page one item describing a ceremony at which Army General V. Petrov, commander-in-chief of Ground Forces, awarded Captain Aushev the Order of Lenin and the Gold Star of Hero of the Soviet Union "for exemplary fulfillment of military duty and for displaying courage and heroism." The latter article was published in JPRS Report 82375 of 2 December 1982.

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## ARMED FORCES

### INTERVIEW WITH MARSHAL OF ARTILLERY K. P. KAZAKOV

Moscow CHELOVEK I ZAKON in Russian No 2, Feb 83 (signed to press 21 Jan 83) pp 28-37

[Interview with Mar Arty K. P. Kazakov by V. Pekshev and P. Dunayev, date and place not specified]

[Text] We often say: "The army is a school of life." And actually, the years of service in the army transform people unrecognizably. Yesterday's schoolboys, passing through the crucible of severe army daily routines, and actually learning the joyous feeling of military comradeship and pride from the successful accomplishment of a task, grow into reliable and experienced defenders of the motherland and worthy continuers of the military glory of their fathers and grandfathers.

For those who stand today in the army formation and for those who are only preparing to come and replace them, the heroic history of our state and its army is a clear reference point in the formation of the human character.

The indoctrination of the young soldiers is one of the basic daily tasks of commanders and political officers of the Soviet Army. This process is difficult, requiring hourly efforts, painstaking work with oneself, and a deep understanding of the important role of the socialist state's defender.

This subject excites many of our readers. Soldiers and officers of the Soviet Army, their parents, friends, and close ones, and veterans of the Great Patriotic War write to us. They all raise important and interesting questions pertaining to many aspects of the life of the contemporary army.

In dedicating this issue of "Sobesednik" [Interlocutor] to Soviet Armed Forces Day, the journal's special correspondents V. Pekshev and P. Dunayev requested the prominent Soviet military leader, Marshal of Artillery Konstantin Petrovich Kazakov, to appear as the principal speaker in our conversation.

[Question] In our constitution, it is written that military service in the ranks of the Soviet Armed Forces is the honorable responsibility of Soviet citizens.

The honorable obligation.... Konstantin Petrovich, what does this concept mean for you, a person who has covered the long path from officer candidate to marshal of a combat arm, what specific content do you put in these words?



[Answer] Yes, "sacred duty," "honorable responsibility"--this is exactly the way the Soviet constitution defines the stay of Soviet people in the ranks of the Armed Forces. And it cannot be otherwise. What is most valuable to a person? There is only one answer--the motherland. We are all her sons--that is why it is our duty to defend our borders and to strengthen the might and defensive capability of our country and the peaceful life of the people.

I have been in the army since 1920, and it so turned out that its establishment occurred before my eyes, I travelled over difficult frontline roads with it, and I am not parting with it even now, by no means a young person any longer.

In characterizing the Red Army Vladimir Il'ich Lenin, whom I had the good fortune to meet, said: "...Now there is no need to fear a person with a gun because he is defending the workers and will be merciless in suppressing the domination of the exploiters."

The primary task was assigned to us, military people, with maximum clarity in these words of the leader and the general essence of the army of the new type was disclosed. Therefore, when we speak of "honorable responsibility" we also read a profound moral meaning in these words.

[Question] Konstantin Petrovich, you mentioned your meetings with V. I. Lenin. Please tell us about this in greater detail.

[Answer] In December 1920, I was enrolled as an officer candidate in the 1st Combined School imeni the VTsIK [All-Union Central Executive Committee].\* And then one day--it was in the middle of July 1921--I was in Manezh. One of the officer candidates suddenly ran up to me. His face was concerned. "The head of the school has sent for you."

What was the reason for the surprise summons? For what should I be ready?

The head and commissar of the school at that time was an active participant in the Great October Socialist Revolution, P. A. Lashchuk, a principled and demanding person. Checking to see that I was in order and the cleanliness of my uniform and boots, I knocked on the door to his office.

Lashchuk looked at me attentively and appraisingly. For some reason or other he again asked my name and said: "Report to Comrade Peterson at once."

The commandant's office of the Moscow Kremlin was located adjacent to the school headquarters, on Kommunisticheskaya Ulitsa [Communist Street]. There was no time for meditation. Concerning the Kremlin commandant Ya. K. Peterson, I knew that he was a party member since 1904 and a participant in the Great October Socialist Revolution and the Civil War. A sharp and strict person. At the same time, a communist of crystal purity and lofty duty.

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\* Now the Moscow Higher Combined Arms Command Orders of Lenin and the October Revolution Red Banner School imeni the Supreme Soviet of the RSFSR. Editor's note.

Peterson examined me for a long time and fixedly, as if he read my thoughts and himself wanted to determine who I am and of what I was capable.

"Do you know the Guard Duty Regulations well?" he asked.

"Yes," I answered.

"Tell me the rules for guarding state objects."

Listening to my answers, the commandant released me, and I soon learned that I had been entrusted with a great honor--to stand at Post No 27 at V. I. Lenin's apartment. By that time, I had the occasion to see Vladimir Il'ich several times, to hear his speeches, and to study his works.

More than 60 years have passed already, but I cannot forget how excited I was in preparing to occupy Post No 27 and how thoroughly I prepared, repeating my instructions by heart. Only V. I. Lenin, N. K. Krupskaya, and M. I. Ul'yanova could pass into the apartment freely.

Vladimir Il'ich was always very attentive toward the guards who stood at his apartment. At the end of April 1922, I went on post at 0100 hours and was to stand on post until 0300 hours. At approximately 0200 hours Lenin, who usually worked late in his office in the Sovnarkom [Council of People's Commissars], appeared in the corridor. As soon as Lenin came near to me I, as required, saluted him. He glanced at me and uttered a short phrase with a smile. It sounded approximately like this: "Well, comrade officer candidate, must you stand guard all the time?"

Lenin's ability to win the favor of a person with one glance or with one word and to share spiritual warmth with each comrade was amazing. It was the deep of night. Quiet. And for a long time I still could not calm myself from the words which Il'ich had addressed to me. So many years have passed, but at times I close my eyes and I see: the yellow light of the lamps, the tired approaching steps, the kind, almost screwed-up eyes, and this: "Well, comrade officer candidate, must you stand guard all the time?"

And a year after this meeting, P. A. Lashchuk announced the order of the republic's Revolutionary Military Council concerning the promotion of officer candidates who had completed the 1st Combined School imeni the VTsIK to be Red commanders. My name was also mentioned among the others. We left the Kremlin with sadness, it having become so much our own. The parting words for us were V. I. Lenin's words about the necessity for the "longest, most persistent, most difficult heroism of mass and prosaic work."

[Question] One can often hear: "The soldier who does not dream of being a general is a poor soldier." Here you, Konstantin Petrovich, attained the greatest heights in soldierly affairs and became a marshal of a combat arm. One can say, your dream has come true. But you see, not everyone in the army becomes a general, not to mention a marshal. The majority of the servicemen have a much more modest rank. But nevertheless, in the final analysis the army does much for a young person. Just what qualities does he acquire here? And by what means is this attained?

[Answer] Well, I will try to answer this question. Yes, you are right--not everyone becomes a general and admiral. Although I will stipulate at once--in perspective, every serviceman has such a possibility. And now, I should like to distinguish another aspect of the matter.

The high evaluation which the 26th CPSU Congress gave to the indoctrinational role of the Soviet Army in the life of a young person is well known. The political and moral steadfastness of the men is strengthened during service. They end their service bolder and more courageous and become citizens deeply devoted to the ideals of communism.

The people have given the Soviet Army most formidable weapons. The contemporary military equipment in the inventory of the Armed Forces, the increased intensity of combat training, and the constant and strained standing of combat alert duty require of the men high general educational preparation and the technically competent handling of contemporary equipment. For it to operate faultlessly, one should study it thoroughly himself and teach it to his comrades. "It is exceptionally important," noted L. I. Brezhnev at a conference of leaders of the Soviet Armed Forces on 27 October 1982, "to master weapons skillfully and to be able to utilize their combat capabilities completely." Only on the basis of broad special knowledge is it possible to attain the high quality of accomplishment of training-combat missions. So the very specific nature of army life forces the men to raise their professional level daily.

I often have the occasion to visit the troops. And it is joyful to see the spacious, well equipped training classrooms and the varied simulators and training ranges. Everything has been created in order to master knowledge successfully.

This is now, in our time. But I again recall my youth. I read in the archival documents of my school: "Classroom lessons take place in premises equipped for a theater and dances; lessons are conducted in two rooms without doors. Each word of one group can be heard in the other. Only those sitting near the teacher use a table; the remainder write on their knees. Instead of a board there is an overturned table with black oilcloth, columns interfere, and because of them not everyone sees what has been written."

Yes, that's how it was....

All conditions for fruitful and systematic engagement in physical culture and sport have also been created in the army as, perhaps, nowhere else. Turn your attention: Sportsmen of the TsSKA [Army Central Sports Club] can be seen at any big all-union and international competitions. And who does not remember such famous Soviet sportsmen as Vsevolod Bobrov, Konstantin Reva, Vladimir Kuts, Yuriy Vlasov, and Grigoriy Fedotov. And this list can be continued even longer. And you see, they all began their sports path in the army, and their outstanding victories in sports are linked with the name of army clubs.

[Question] Konstantin Petrovich, since we have already touched on this subject, I should like to acquaint you with some of the letters from our readers. Here, for example, Sergey Suslov writes from Moscow that he works as an assistant printer in a printing house, he is soon to serve in the army, and he does not want to part with

favorite work. He asks if he will have the opportunity to continue his professional training in the army. Comrades I. Shaytanov from Groznyy, A. Belov from Cheboksar, E. Khalilov from Baku, and others asked us approximately the same questions.

[Answer] It is difficult to answer this question unambiguously. At one time, I commanded the rocket troops and artillery of the Ground Forces. And I know that among the rocketmen, for example, there are many radio operators, vehicle drivers, diesel operators, mechanics, and so forth. So naturally, after certain retraining people are practically engaged in work which is already familiar.

But, in the end, only the command determines the place of service and the type of the serviceman's occupations. And I think that the serviceman who has mastered some other or even several new specialties during his years of service will be only grateful to the army. For this always comes in handy in life.

[Question] Could you comment on another letter which is curious from our point of view? In particular, its author Andrey Gurov from Minsk, writes: "I recently finished school and am not working anywhere for the present (I tried to enter the institute but was "plucked" on the second examination). I will soon go into the army and I think with some apprehension that it will not be easy for me there. There is discipline there.... And my character, at least as my friends say, is proud and independent. And really, I seldom listen to other opinions and consider that my own are correct. I had a long talk with my mother about this, and she suddenly unexpectedly burst into tears. "Oh, it will be difficult for you, my son, oh, difficult...."

[Answer] It should be said that Andrey Gurov is correct--it will be difficult for him in the army--at least at first. It will be difficult until he understands that discipline is the very foundation of all army life.

Frequently, regular egoism, incorrectly understood ambition, spiritual laziness, and an unwillingness to look at oneself critically from the side are concealed behind such characteristics as "proud" and "independent."

Yes, military service as a whole, any aspect of the troops' life and activity, and the standards of the servicemen's behavior in service and non-service time are regulated in detail by legal acts. The most important of them are the Soviet constitution, the Law on the Universal Military Obligation, general military regulations, decrees of the Soviet government, and the orders of the Soviet minister of defense and various instructions and manuals.

We observe the laws in our daily life: at work, at home, in the street. In general, it is difficult to name a situation in life which would not be regulated by various legal standards.

It is the same in the army. For us, military legislation never was and is not some detached part of the state's legal system. It develops in the general channel of Soviet legislation since the Soviet Armed Forces are an integral and component part of the socialist general state and the main weapon for its defense.

It is also important to remember something else here. For example, what are military regulations? They are by no means the whim of commanders--they are the combat

experience selected by time itself and interpreted by our military science, the practice of army life, and generations of servicemen. And following provisions of regulations means proceeding most expeditiously in each specific situation.

Therefore, it is clear that Soviet military legislation devotes primary attention to strengthening the defensive capability of our motherland and raising the combat readiness of the Armed Forces. It strives to create the most favorable conditions for the servicemen's accomplishment of their constitutional obligation for the defense of the fatherland and to satisfy their needs and demands.

[Question] It is known that our country's constitution grants the servicemen broad rights of participation in the socio-political life of the state and the rights to an education, to the use of the achievements of culture, and to the freedom of scientific, technical, and artistic creativity are extended to them in full measure.

But we also recall that each soldier is someone's son or husband, that each one's family remained "civilian," and it may so happen that a person's prolonged absence may have some unfavorable effect on the life of these families. Here, for example, is a letter from Junior Sergeant K. Trofimenko. "I live in a rural area, and gas has not yet been brought to us so that we fire the stove with coal. My mother is a group II invalid, it is difficult for her to be engaged in the procurement of fuel, and formerly this was my business. Now I have been called up to the ranks of the Soviet Army. I recently received a letter from home where my mother reports that she has run out of coal and now she does not know what to do. Perhaps you can suggest how she can be helped here."

[Answer] Such situations are also envisaged by military legislation. One of the articles of the Soviet Law on the Universal Military Obligation states directly that the Councils of Ministers of union and autonomous republics and executive committees of Soviets of People's Deputies are obliged to display concern for the families of those called up for active military service and to adopt measures for the strict observance of legislation in effect concerning privileges and allowances for these families. No later than a month from the moment of the appeal, employment is to be found for wives whose husbands have been called up for active military service, and in this same period their children are to be placed in available nurseries and kindergartens regardless of the departmental affiliation of these children's institutions. The state also pays an allowance for the children of servicemen and military builders.

As regards the letter of Junior Sergeant Trofimenko, he has the right to appeal to the ispolkom of the Soviet of People's Deputies or to the rayon military commissariat at his place of residence personally or through the unit command. I am confident--they never refuse assistance.

And this is one more confirmation of the profound vitality of our constitution.

By the way, I attended the celebrations when the 1936 Soviet constitution was adopted. I have especially dear recollections connected with this day.

[Question] If you can, tell about this.

[Answer] In 1936, I commanded a battery in the School imeni the VTsIK. It was a special time, somewhat joyous and elevated--the country prepared for the adoption

of the new constitution. The 8th Extraordinary All-Union Congress of Soviets was convened in Moscow.

Several days prior to the start of the Congress, I was called to the school's political department and informed that I should prepare and give the greeting in the name of the men of the Soviet Armed Forces.

In the evening on 27 November 1936, we arrived at the Large Kremlin Palace. Infantrymen, pilots, artillerymen, tankmen, and seamen entered the hall, which was filled with a bright light, with their battle standards to the sound of a fanfare, stepping firmly. The delegates to the Congress greeted the envoys of the Red Army with a stormy ovation and cries of "Hurrah!"

When the hall grew quiet, the chairman announced: "Artillery battery commander Captain Kazakov has the floor."

Gathering up all my will into a fist and trying to suppress my excitement, I mounted the rostrum. I remember everything perfectly even today. Then I said: "We will defend the constitution with thousands of combat airplanes, thousands of tanks, and mighty artillery. We will defend the constitution with battleships, cruisers, torpedo boats, and submarines. Comrades! The Soviet people have something to defend, have the defenders, and have the weapons to defend with!"

[Question] And soon the truthfulness of these words was proven in battle.

[Answer] Yes, the Great Patriotic War began in several years. This can be remembered for a long time.

At the start of the war, I commanded an artillery regiment and then was the commander of the artillery of the 2d Shock Army and the 1st Red Banner Army. There was everything: the bitter taste of withdrawals and the joy of the first victories over the enemy, but remembered especially are the days of the Battle of Stalingrad. Here is only a small part of this heroic chronicle.

It was 19 November 1942, Thursday. Early in the morning, we occupied an observation post in the area of the village of Kletskiy-na-Donu two kilometers from the dispositions of the German troops.

It was 0730 hours. A salvo of "katyushas" sounded first. Then all batteries went to work. A blow of tremendous force rained down on the enemy defense northwest of Stalingrad, a blow the likes of which the German-fascist troops had never experienced during the entire time of the war. The artillery fire raged for 80 minutes, crushing the enemy defense and sowing destruction and death in the enemy camp.

On 28 November, units of the XXVI Tank Corps under the command of General A. G. Rodin and the IV Tank Corps of General A. G. Kravchenko of the Southwest Front, overcoming the desperate resistance of the Hitlerites on the snow-covered Don steppes, linked up with the advanced units of the IV Mechanized Corps of General V. T. Vol'skiy of the Stalingrad Front whose troops had gone over to the attack on 20 November. The troops of our three fronts encircled 22 Hitlerite divisions. The destruction of the enemy began.

Headquarters, Supreme High Command, assigned the elimination of the surrounded enemy force to the troops of the Don Front under the command of K. K. Rokossovskiy.

Prior to the attack, on 8 January 1943, the representative of Headquarters, Supreme High Command and commander of the Don Front issued the encircled troops an ultimatum on surrendering.

The command of the German-fascist troops declined it.

At 0750 hours the command was given: "Synchronize watches." I still recall the excitement of the artillery commander of the 65th Army, General I. S. Beskin, when he gave this signal.

0803 hours. At this time, all gunners took the lanyards.

0804 minutes 55 seconds. The command "Fire! Fire! Fire" was transmitted by all radio and telephone operators.

On 31 January 1943 the Soviet troops captured the headquarters of the 6th German Army, including General-Field Marshal Paulus.

On 2 February 1943, battles in the Stalingrad area were concluded. And later, I learned with joy and pride that I had been awarded the Order of Lenin.

Someone could be surprised at such detailed notes which I presented from my front-line notebook, but I am confident that veterans of the Great Patriotic War will understand me because there, in Stalingrad, the fate of the war was decided and the instant of victory was carved in our hearts for all our lives.

Dozens of first names and family names of heroes of the battle are preserved in my memory, and many of us see each other even now. Frequently, especially now, when the 40th anniversary of the destruction of the German-fascist troops at Stalingrad is being marked, we travel out to the troops and meet with the men, with those who received from our hands the baton of soldierly glory.

[Question] Heroes and exploits.... This subject is finding its continuation even now, in days of peace. Konstantin Petrovich, how would you characterize the contemporary men of the Soviet Army, their moral and combat qualities?

[Answer] In the Accountability Report of the CPSU Central Committee to the 26th Party Congress the following is said about the Soviet servicemen: "They have not gone through the severe tests which befell the lot of their fathers and grand-fathers. But they are true to the heroic traditions of our army and our people. And each time that the interests of the country's security and the defense of peace require and when it is necessary to assist the victims of aggression, the Soviet serviceman appears before the world as a disinterested and courageous patriot and internationalist ready to overcome any difficulties." These words give an exhaustive description of the Soviet serviceman and his noble mission.

The Soviet Army has many glorious combat traditions, and now they are being increased and strengthened. The young soldiers have those to take as an example,

they have reliable and formidable equipment, and they are deeply devoted to the socialist motherland. This is why our battle shield is reliable and strong as never before. This should be remembered by all those who now are whipping up the arms race, risking the plunging of the world into the fire of thermonuclear war.

I can say with confidence that service in the ranks of the Soviet Army is constant readiness for an exploit. And each day that is lived convinces us of this. We can present many examples where our men displayed models of boundless courage and heroism in a difficult situation. Everyone remembers the exploit of Lieutenant Aleksandr Stoby which was accomplished even now, in peacetime, and the heroic deed of Senior Sergeant Anatoliy Levushkin who gave his life to save his comrades.

Wherever he may be, the Soviet serviceman is always distinguished by high humanism and a sense of genuine internationalism. This is how it was, for example, in the Tyrrhenian Sea when a Soviet ship under the command of Captain 2d Rank A. Beketov assisted Sicilian fishermen. And seamen of the hydrographic vessel "Pamyat' Merkuriya" saved Italian seamen from the sunken trawler ("Antonio Padre.")

As you see, there is always room for an exploit.

[Question] And the last question, Konstantin Petrovich. What would you like to wish for our young readers, men of the Armed Forces, and pre-draftees?

[Answer] You know, when I finished the School of the VTsIK, my comrades and I were issued a small sheet where the following was written: "Wishes for the graduates." Next followed these words: "You are young people, and your dreams are fervent and colorful. What can we wish for you? Perhaps we old fellows can't keep up with you. We were young. And we had our dreams. And how lucky we are: truly revolutionary reality justified and surpassed our most fervent dreams."

"I wish you the same."

"Onward and upward."

"Red Army Choir Leader Dem'yan Bednyy."

I preserve this document as a dear relic and I now address its words to our young successors.

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## ARMED FORCES

### BOOK REVIEW: 'THE MAKING OF A COMMANDER'

Moscow KRASNAYA ZVEZDA in Russian 4 Jan 83 p 2

[Article by Army General M. Zaytsev: "Facets of an Officer's Maturity"]

[Text] I recall with what interest some seven years ago readers greeted the book of Army General P. N. Lashchenko, "An Officer's Youth." This well known military leader directly addressed the recent graduates of military schools, gave them advice, and shared his rich experience in training and education.

The book, "Stanovleniye Komandira"\* [The Making of a Commander] by Major General of Tank Forces I. Skorodumov, published by VOYENIZDAT, brought to mind "An Officer's Youth." It is also addressed to lieutenants, is written in the same confidential tone, and contains many vital facts which force one to ponder both the officer's calling, and the paths to becoming a commander.

What lieutenant is not troubled, for example, by the questions examined in the first chapter, "A Commander's Pedagogical Arsenal?" It knowledgeably sets forth the main principles of training Soviet soldiers: communist party mindedness and scientific approach, conscientiousness and activeness in training, clarity and systematic nature, consistency and comprehensibility, and a collective and individualized approach to training.

But I most liked the section which discusses training of subordinates. I feel that this theme is dear to the author, as he in his time commanded a platoon, company, battalion, and later a regiment and division. He has acquired many thoughts and facts on the problems of training, and he presents them in detail in understandable language, and makes conclusions which have been tested in real life. "I recall my days long ago as a lieutenant," writes the author, "my first steps on the road to a commander's self assurance. I will not conceal that at that time I very much wanted to be like my company commander, Captain A. Yakushov. He had something seemingly indefinable with which he, as they say, "took," i.e., gained the liking of those around him. Of course, many of his qualities attracted attention to him: his superior knowledge of military affairs, his constant smart appearance, and his readiness to give all of himself to service without reservation. Is it necessary to say how all of this together actively "worked" to enhance the authority of the company commander? However, later I discerned yet another trait of his character. Captain Yakushov's deeds always matched his words. I cannot recall an instance in

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\*I. Skorodumov, "Stanovleniye komandira" [The Making of a Commander], VOYENIZDAT, 1982, 208 pages.

which, having decided or promised something, he went back on his intention or his word."

The chapter, "A Commander and his Work," is the central and most extensive one in the book. It traces in order nearly the whole range of an officer's difficult concerns.

The book describes an uncommon episode of punishment: "For recurrent violation the commander announced three days of arrest and confinement in the guardhouse for Warrant Officer A. Klimenko. However, Klimenko himself was very indifferent to what had occurred, and a smile slipped across the faces of those present at the officers meeting. And how can one restrain a smile, if three days arrest has been imposed on the warrant officer repeatedly, but Klimenko has not even spent a single day in the guardhouse. Once the commander forgot about the punishment imposed, and once it unexpectedly turned out that the warrant officer was needed in the sub-unit."

I think that this example, as well as many others, will prompt young officers to consider that in disciplinary practice, as well as in other areas of service, it is necessary to precisely follow the regulatory requirements. Each departure from regulations adversely affects the state of discipline and organization.

The special section, "Service On Duty Detail," turned out to be interesting. It seems to me that it will interest the readers, most of all recent graduates from military schools, who at times experience great difficulties when taking over a duty detail.

I believe that the book, "Stanovleniye komandira," will be read with no less interest by our experienced commanders who are assigned to train young people. And, seemingly the author should have foreseen this, and addressed one chapter to those who train officers directly, and on whom their success to a large extent depends. In my opinion yet another important issue was omitted. The book says almost nothing about family relations. But a good half of school graduates arrive in the unit with wives, and many with children, and frequently success in service depends on how their family life is going. Probably the section, "Disciplinary Practice," should be expanded. This is one of the most important and difficult problems of a commander's work, and might have been put in a separate chapter.

On the whole, the book, "Stanovleniye komandira," turned out to be high in quality and useful. It is well illustrated, and undoubtedly will find a path to the reader.

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## ARMED FORCES

### REVIEW OF MILITARY PRESS CRITICISMS

Moscow KRSNAYA ZVEZDA in Russian 16 Mar 83 p 2

[Unattributed article: "Businesslike, Specifically, and Creatively"]

[Text] The personnel of the communications platoon commanded by Senior Lieutenant V. Margraf obligated itself this training year to persistently improve the level of its technical training. The decision is commendable. The personnel are filled with a desire to improve their skill, which serves to strengthen the combat readiness of the sub-unit and the unit as a whole. However the desire alone turned out to be insufficient. The communicators' technical training received merely a satisfactory evaluation at the test exercise. Insufficiently precise organization of training, the lack of an atmosphere in the platoon of true competitiveness, and the commander's inability to evaluate the real achievements of each soldier in socialist competition all hinder successful fulfillment of the obligation.

These shortcomings were discussed in the report, "Do we write three but have two in mind?," in NA BOYEVOM POSTU [At the Action Station], newspaper of the Order of Lenin Moscow Air Defense District. Such a position of the editors is based on the view that the organization of socialist competition is active and creative, and does not permit formalism, indifference and dogmatism. At the same time, specific advice and recommendations are given, which should help the communicators make up for their shortcomings.

Many military district, group of forces and fleet newspapers feature issues which treat the course of socialist competition, and propaganda of advanced experience. The journalists desire to deeply analyze and interpret the problems of improving the organization of competition and strengthening its influence on all aspects of the life and service of the personnel. The paper NA BOYEVOM POSTU also takes this position. It tries to bring to the soldiers the experience of those who are most advanced, and criticizes military collectives where vacillation is observed and necessary attention is not given to the organization of competition. In so doing, the paper is guided by the decisions of the November 1982 CPSU Central Committee Plenum, and the positions contained in the report by Comrade Yu. V. Andropov, CPSU Central Committee General Secretary, at the ceremonial session dedicated to the 60th Anniversary of the USSR. "Focus on the business at hand, and not on grandiose words," emphasized Andropov, "that is what is needed today." This formula holds the key to success in any sphere of activity, including the military.

The paper, NA BOYEVOM POSTU, regularly discusses the work and concerns of the initiators of competition. Thus, recently on its pages there appeared detailed material prepared by non-resident editors in an excellent air defense missile unit. It details the work of commanders, staff officers, political workers, and party and komsomol organizations in mobilizing troops to fully accomplish obligations which they have undertaken. The fact that the publication discusses specific experience and makes comparisons is valuable. Along with favorable information, the material contains critical analysis of some aspects of the missilemen's activities. The paper's active and interested illustration of conditions in the unit will undoubtedly help to mobilize all personnel of the military district to achieve new heights in their daily work.

To the paper's credit is the systematic publication of selections on the course of competition among various categories of specialists, with commentaries of officers from the military district staff, commanders and engineers. Such materials are instructive, and contain valuable grains of advanced experience.

Socialist competition is an important portion of the work of party organizations. The pages of NA BOYEVOM POSTU widely illuminate the advanced experience of party collectives, which are ably assisting commanders in increasing the effectiveness of competition. At the same time, shortcomings are also revealed. Materials under the rubrics, "Guidelines for Party Work -- The Decisions of the 26th CPSU Congress," and "Communists and Competition," can be singled out. As a rule the publications present topical issues concerning exemplary activities of communists in fulfilling obligations, party and political influence on increasing the role of competition in the military service and training of soldiers, in their carrying out of missile operational readiness duties, and in improving the professional training of specialists and their moral, political, and psychological qualities.

The paper of the Red Banner Volga Military District, ZA RODINU [For the Homeland], devotes constant attention to questions of competition. For example, it regularly contains materials under the rubric, "Right-flankers of Military Labor," "High Effectiveness in Competition," and "Initiators of Competition." The paper lets those speak who are the direct authors of advanced experience: masters of combat specialties, outstanding soldiers, qualified specialists, and innovators. For example, the report of Warrant Officer A. Filatov, "Who Takes the Gunner's Place?", is unquestionably useful. It speaks of the need for precise organization of competition among soldiers to master associated specialties as an important reserve opportunity for increasing combat skill. In one issue the reader's attention is drawn to the material, "They Were Withdrawn From Training." Participants in a road brigade which the newspaper correspondent joined questioned the rational use of training time, the inadmissibility of removing personnel from training, and the importance of using the energies of socialist competition in the struggle for high quality mastery of training problems.

However, it must be noted that ZA RODINU contains few deep analytical materials which pool advanced experience and discuss how to provide specific, daily

leadership of socialist competition, and how to actually implement Leninist principles of its organization. The paper does not always demonstrate persistence and consistency in the battle against formalism in competition, and does not expose the deep, underlying reasons that some units and sub-units are lagging. Recently the number of critical articles in the paper has declined. At times they have been replaced by superficial, uninformative articles and correspondence, which depict the course of competition in rosy tones. Such shortcomings are characteristic, for example, in the reports, "Attaining Mastery," and "We Guarantee Reliability." Excessive generalities and the laudatory tone reduce the effectiveness of these and a number of other materials.

The paper writes many frequently interesting articles about life in military schools. However, recently it has less frequently raised questions concerning the participation of students in socialist competition, and poorly depicts how future officers are taught the methodology of its organization.

There are also certain defects in the work of NA BOYEVOM POSTU. Over the course of recent months, the rubric "Returning To Published Subjects," which speaks of how units are putting into effect the advanced experience which the paper has discussed, has been irregularly used. And it is important that the valuable kernels of new advances become generally available as soon as possible. In order for the paper to become more actively involved in the issue of putting advanced experience to use, journalists must face the problems of implementing Leninist principles of organization of competition, and the participation in competition of young officers, warrant officers and sergeants.

All military district, group of forces and fleet papers must show more clearly how people's political consciousness is formed in the process of competition, and how it develops their desire to do more and better today than yesterday. At the same time, it is necessary to struggle more resolutely against formalism in drawing up obligations, summing up, pooling experience, conducting propaganda, and putting advanced experience into use.

Military district, group of forces, and fleet newspapers must more frequently cover such issues as struggling for economy and thrift, improving the training and material base, and fulfilling moral principles and the norms of communist morality by all service personnel, and must show competition for exemplary appearance and smartness in formation, and the use of moral incentives. Variety in editorial style should be achieved. For example, it cannot be considered normal that ZA RODINU in recounting themes of competition uses basically only the genres of articles, correspondence and reports.

"Increase vigilance; reliably ensure the security of the Homeland!" This motto of socialist competition impels every soldier, sailor, sergeant, sergeant major, warrant officer and officer to constantly maintain his training and the combat readiness of his sub-unit or unit on a high level. During the intense winter training period, the competition of outstanding patriotic work is continuing in its decisive stage. The great heat of competition is mobilizing the leaders to increase their achievements, and those who are lagging to catch up, and use all their reserve capacities to eliminate shortcomings.

The task of the military district and fleet press is to help commanders, staffs, and political organs to increase the effectiveness of socialist competition. This may be achieved on the basis of specificity, substantiveness, effectiveness, and party fervor of published materials, profound knowledge of life, and attention to its urgent problems. All this will constitute a significant contribution of the military newspapers to successfully implementing the tasks stemming from the decisions of the 26th Party Congress, the November 1982 CPSU Central Committee plenum, and the instructions of the USSR Minister of Defense on further increasing combat readiness of sub-units, units and ships, and strengthening discipline and organization.

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## AIR FORCES

### PREVENTING PILOT ERRORS

Moscow SOVIET MILITARY REVIEW in English No 4, Apr 83 pp 21-23

[Article by Lieutenant Colonel S. Guryanov]

[Text]

**T**WO YOUNG lieutenants, who had recently arrived for further service in the given section, were training to pilot a new aircraft. Both of them were fulfilling the programme with equal success. Even their mistakes were at times identical and generally occurred during the landing — the most crucial and complicated stage of the flight. The pilots took their failures to heart, but were unable to explain the reason for them. What is more, they failed to correct their mistakes on their own due to lack of experience. Their commander came to help them out. After a brief talk with them it became clear to him that they had approached the runway below the predetermined glide path. As a result, the aircraft nosed up, thereby impairing the ground visibility.

The section commander pointed out that this mistake was fraught with grave consequences. Jointly with the squadron commander he drew up a plan of simulator training. The lieutenants worked up thoroughly their actions during the descent following the preset glide path making a more accurate approach to the flare-out point and paying more attention to

the landing proper. It took considerable time and effort, of course. But what is more important, the pilots' mistake was timely noticed and eliminated.

It is a known fact that the guarantee of success in the air is excellent training on the ground. An essential component of the latter is systematic purposeful training with the use of special equipment and in aircraft cockpits. The commander draws up a clear-cut plan for each lesson. Certain skills, particularly those required for the pilot to perform new and more complicated exercises, are worked up as early as during the advance training and polished during the preliminary and preflight training.

Practical training is preceded by tackling new theoretical questions or reviewing those already covered, which helps the pilots fly their missions thoroughly prepared.

A thorough analysis of shortcomings and elimination thereof by means of purposeful drills are the main conditions for preventing airmen's mistakes.

One day a young pilot made a mistake in warming up and

checking the engines before taxiing out from the parking area. The commander examined his actions in great detail. Considering that the mistake was likely to be repeated by other pilots, he organised a special training session. In the beginning the deputy commander for aeronautical engineering service told the airmen about the physical phenomena underlying warming up and running up the engines, after which he demonstrated the correct way of performing the relevant actions. Then the pilots had training under the engineer's supervision. Moreover, the questions bearing on starting and running up the engines were discussed once again during a lesson. All this did not fail to bear fruit: the pilots no longer made mistakes of this kind.

One could somehow explain young pilots' failures by lack of experience. Many potential air accidents, however, occur through the fault of those who are not novices in the Air Force. So what causes experienced pilots' mistakes?

Let us consider the following incident. Having performed a flying mission, a group of fighter planes was making a landing approach. Someone on the ground saw an aircraft gliding with the landing gear retracted, although each pilot had reported their extension. The flight control officer ordered them immediately to go around. One could easily realise the grave consequences should the blunder be overlooked.

The aircraft in the instance cited above was piloted by an experienced airman. He said during the critique that he had forgotten to check his actions against the instruments. Such "forgetfulness" does not become an experienced flyer. As

it turned out later, "forgetfulness" was not the only reason for the pilot's omission.

On the eve of the flights the commander had demanded that each pilot repeat the sequence of handling the controls in the aircraft cockpit. Such a decision was necessitated

by the fact that during formation flights airmen concentrate their attention on tight flying. After the group has been dispersed for the landing, the pilots usually relax. It is at this stage of the flight that the danger lurks. Whereas young lieutenants diligently studied the theory of formation flight and worked up the procedure of handling the instruments and switches, the experienced pilot in question was not so zealous. Relying on his previous knowledge, he did not doubt in the least that he would cope with the assigned mission without any difficulty. As could have been expected, the pilot's conceit was his undoing. The sky "takes its revenge" on those who violate flight preparation rules. The experience of many years has shown that thorough preparation for an assignment, regardless of its novelty or complexity, is essential for everybody. Experienced pilots must remember this constantly and set examples to their younger comrades in everything.

Pilots' erroneous actions are largely precluded by automatic control systems. It should be borne in mind, however, that materialisation of the technological progress achievements ultimately depends on the person handling the equipment, and his professional training standard. Flying work calls for good health, physical fitness and stamina, and high psychological qualities, e.g. courage, initiative, quick reaction, and the ability to assess a



complicated situation correctly and take well-grounded decisions without delay.

A psycho-physiological analysis of certain pilots' actions in complicated and emergency situations shows that at moments of extreme stress a practically healthy person does not always behave in conformity with the situation.

Factors deteriorating man's mental capacity are thoroughly studied. They include inadequate rest, fatigue, malnutrition, lower vitality due to lack of training, poor spirits, etc.

It goes without saying that flight safety and the standard of performing flying missions largely depend on the personnel's capacity for work and endurance. Therefore, timely detection and prevention of reasons reducing the influence of the above factors is a task of primary importance for flight surgeons, commanders and political workers alike. They must take every step to provide normal conditions for pilots' work, including a gradual increase of loads and the transition from the simple to the complicated, and a combination of mental and physical activity, active rest and regular physical training. Omission of these requirements is likely to result in a pilot's failu-

re to assess correctly a complicated flight situation and timely to react to the aircraft's deviation from the preset parameters.

The commander's and flight surgeon's work with the information obtained with the aid of monitoring equipment deserves special mention. Not infrequently test instrumentation recordings are the only means to follow a pilot's actions in flight and assess his merits and demerits objectively. For instance, the pilot's proficiency at a given stage of the flight can be judged by the character of his motions in manipulating the aircraft controls. A greater amplitude of control and an increased number of corrective motions, and also reduced time of keeping the control stick in the neutral position should be considered negative symptoms in the pilot's performance, often caused by intervals in flight work.

Strict conformity with the daily routine, envisaging rational alternation of work and rest and unconditional conformity with the requirements of documents, regulating the flying work, is an important condition for preventing pilots' mistakes. This conditions, plus high proficiency, physical training level and capacity for work is eventually a guarantee of flight safety.

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## GROUND FORCES

### ROLE OF TANKS IN OFFENSIVE OPERATIONS

Moscow SOVIET MILITARY REVIEW in English No 4, Apr 83 pp 18-20

[Article by Colonel M. Loginov, Cand. Sc. (Military)]

[Text]

**M**ODERN tanks possess a great fire power, survivability and mobility, and comprise a striking force of the Land Forces. They are capable of acting rapidly in the offensive and carrying out an active defence and marches at high speeds.

Fire and manoeuvre are the main weapon for the destruction of the enemy. As a rule, the fire is carried out on the move, from short halts, from the halt and stops.

Manoeuvre with subunits is carried out for taking up advantageous position in relation to the enemy with the purpose of delivering a surprise blow at the flanks and rear of the enemy or for withdrawing from an enemy blow. An envelopment, a turning movement, combination of both and a withdrawal are the types of manoeuvre.

Depending on the mission to be carried out and the situation, one or two motorised infantry companies, up to an artillery battalion, up to an AD battery and up to a combat engineer section may be attached to a Tk Bn. Its actions can be supported by an artillery battery.

A tank battalion carries out combat actions as part of a unit or independently. As part of a tank unit it is usually employed in a centralised way, i.e., as a whole, while in a motorised infantry unit, in a decentralised way, i.e., by companies for reinforcing motorised infantry battalions of the first echelon and reserve. A tank company, as a rule, advances in full strength and in particular conditions, by platoons with motorised infantry companies.

A tank battalion can also act independently: in an advanced detachment, in an advance guard or

in a rear guard, and also in enveloping detachment. A company can be independently detailed in a reserve, security on the march and security on halt, and in a recce detachment for covering disengagement and withdrawal. A platoon can be detailed to a combat and reconnaissance patrol. A tank is normally used as part of a platoon and independently as a patrol.

The offensive is the main type of combat actions of tank subunits. It can be launched against the defending, attacking or withdrawing enemy. An offensive against an advancing enemy is a meeting engagement, and against a withdrawing enemy, a pursuit.

Before the offensive tank subunits can be in a departure area, hold defences or be located on waiting positions.

Tank subunits pass over to the offensive on the move or from the position of close contact with the enemy.

An offensive on the move is usually carried out from a departure area.

Sometimes a tank battalion, destined for the offensive in the first echelon, and also tank companies attached to motorised infantry battalions occupy waiting positions. In this case they pass over to the offensive from the designated positions with deployment into battle formation for attack while on the move.

Before the offensive a tank battalion with reinforcing means disposes by companies, usually along the routes of movement, taking advantage of the protective properties of the terrain.

For timely and organised advance from the occupied area and for achieving a simultaneous passing of subunits to the attack, a battalion is assigned the route of movement, an initial position, lines of deployment into company and platoon columns, the line of passing over to the attack and the line of safety distance, and for the motorised infantry subunits, the line of dismounting (see Diagram).

A combat mission of a Bn of the first echelon on the offensive can be divided into the initial and the next mission. In order to orient the battalion CO for further actions he is indicated the direction of the offensive.

The content of the initial mission in advancing against insufficiently organised defences is usually the rout of the enemy in strong points and the capture of the first position.

The content of the next mission is pressing home the attack, rout in cooperation with the neighbouring battalions of the brigade (regiment) reserves

and the capture of the designated line. The initial mission of a tank company usually consists in routing the enemy in cooperation with neighbouring subunits in a strong point of the first echelon company and capturing it.

A platoon and a tank are indicated an objective, but sometimes only a direction of the attack.

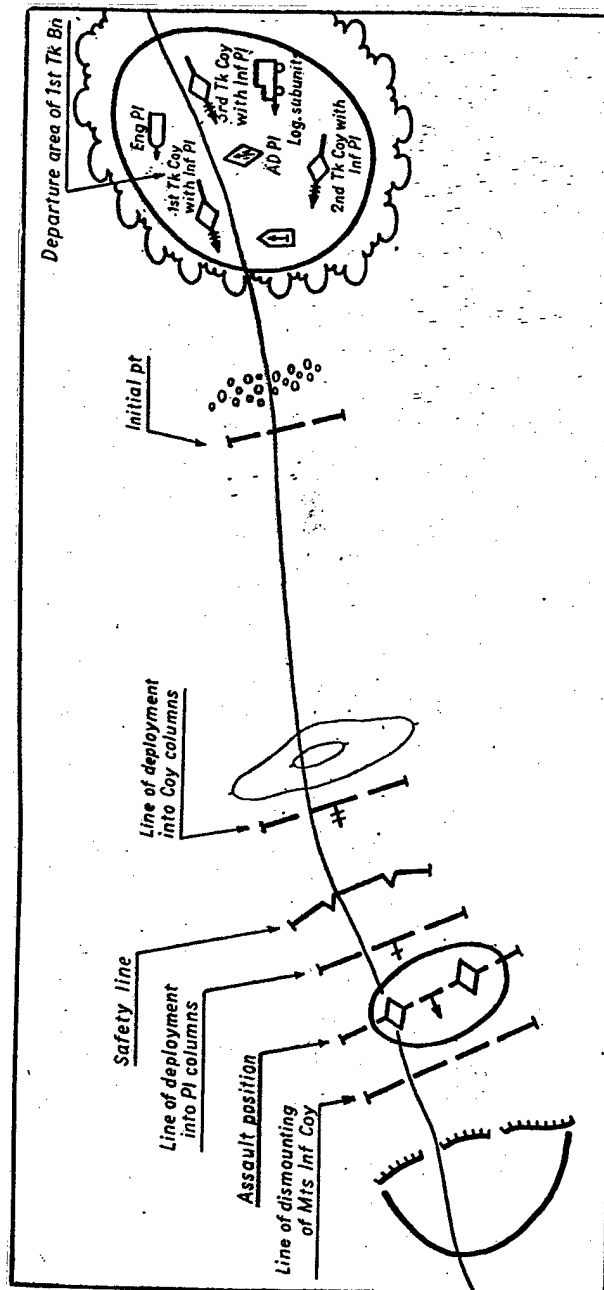
When breaking through the developed enemy defences the initial mission of the first echelon battalion consists in the rout of the enemy in strong points of the first echelon companies and their capture. The next mission is pressing home the attack, rout of the enemy in cooperation with the neighbouring battalions in the depth and capture of the first position.

As a rule, on an offensive a battalion assumes a two-echelon combat formation and consists of combat formations of the first echelon companies with reinforcing means, a company of the second echelon (reserve) and the rear. If the artillery, combat engineer subunits, and sometimes subunits of the air defence are attached to a Bn, then they also become an element of its combat formation. The combat formation of a tank company consists of combat formations of platoons and reinforcing subunits.

The first echelon of a battalion is designed to solve an initial mission and also to exploit an offensive in the depth. Therefore it comprises a major part of manpower and equipment, not less than two reinforced tank companies.

The second echelon up to a company strong is created for exploiting success of the first echelon, delivering a blow in a new direction or for repulsing counterattacks. It may be drawn in for destroying the enemy on the flanks and in the rear and also for replacing subunits, which have lost their fighting efficiency. The battalion reserve consisting of a tank company or a platoon is intended for carrying out missions arising during combat actions.

The highly manoeuvrable character of a battle of tank subunits demands from their commanders stable, continuous and secret troop control. A tank battalion CO exercises control over his subunits from the CP-OP. During the advance it is located behind the first echelon companies. Radio is the main communication means. As a rule, a radio network of sorts is created in a tank battalion consisting of radio stations of the battalion CO, company commanders, commanders of platoons and tanks. If a tank company acts independently, then a radio network of the commander is organised, consisting of radio stations of the platoon leaders, all tanks and the radio station of the superior commander.



The battalion and company COs carry out the entire activity in organising battle on the basis of their personal estimation of the terrain and other information, as well as the instructions of the superior commander. If the situation does not allow, it is done on the map but the commander must find a possibility for specifying missions for subunits and arranging cooperation on the terrain.

Tank and motorised infantry subunits attached to them usually advance jointly. Motorised infantry subunits attack on IFVs or APCs without dismounting when the enemy strong points are reliably neutralised by fire and the terrain is accessible for actions of tanks and IFVs (APCs). In instances when the enemy defences are not sufficiently neutralised and the ground is broken, closed and difficult motorised infantry subunits launch an attack in dismounted formations. Only sighter-operators, driver-mechanics and deputy platoon commanders stay in vehicles.

Infantry fighting vehicles attack following tanks. When dismounted, the motorised infantry act in a skirmish line following a tank line formation at a distance excluding the possibility of losses from bursts of friendly artillery. IFVs (APCs) making use of the accidents in the terrain move forward by bounds at a distance ensuring effective employment of their own weapons.

A correct choice of the type of attack and combat formation is an important element of a tank subunit CO's tactical thinking.

Modern battle demands of tank officers a perfect knowledge of the weapons and equipment not only of tank subunits, but also of subunits of other arms of the service and their effective use on the battlefield.

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## AIR DEFENSE FORCES

### AIR DEFENSE FORCES PROFILED

Moscow SOVIET MILITARY REVIEW in English No 4, Apr 83 pp 15-16

[Text]

The birth of the Air Defence Forces is inseparably connected with the activity of V. I. Lenin. After the Great October Socialist Revolution he personally headed the organisation of the effort against the first counter-revolutionary mutinies, took measures for strengthening the defence of Petrograd (Leningrad since 1924) — the cradle of the revolution, and concerned himself with the city's air defence. In connection with the capture of Gatchina by rebels, where many planes of the officers' aviation school and artillery guns were located, Lenin on the night of October 28, 1917 (old style) arrived at the Putilov (now Kirov) Works and assigned the workers the mission of speeding up the dispatch of an antiaircraft armoured train to the front. This mission was fulfilled.

Directed to the Pulkovo area, this antiaircraft armoured train jointly with an antiaircraft automobile battery located near Krasnoye Selo became the first detachments of the Air Defence Forces of the young Soviet Republic.

In conformity with the Decree on the Workers' and Peasants' Red Army early in 1918, aviation detachments and artillery batteries to fight the enemy planes began to be set up.

During the Civil War (1918-20), covering the forces from air attacks, the men of the 2nd Anti-aircraft Battery of the Northern Front in particular distinguished themselves. With the fire of their guns and machine guns they destroyed 8 British planes and inflicted heavy losses on White Guard troops and interventionists in manpower and equipment. For courage and heroism displayed by the personnel the battery was decorated with an Honorary Red Banner of the All-Russia Central Executive Committee.

The long and glorious path traversed by the Air Defence Forces was vividly reflected in the history of this battery. In Baku it commenced the formation of the Air Defence District. Reorganised

into a separate antiaircraft battalion and later on into a regiment, this unit arrived in Moscow in July 1939 and joined the ranks of the capital's air defence forces.

At that time, side by side with the antiaircraft artillery and fighter aviation units, machine-gun and searchlight formations a network of air observation, warning and communication posts was set up. New artillery systems, high-speed fighter aircraft, fire control instruments, balloons and radars created for the first time in the world came into service. Manpower and equipment of the Air Defence Forces were concentrated on protecting the most important objectives.

In 1941 nazi Germany perfidiously attacked the Soviet Union. In their plans the nazi Command assigned a major role to air attacks against Moscow, the Soviet capital, and against Leningrad — the cradle of the revolution. It was intended to raze these cities to the ground and to annihilate their population. But the enemy's plans were frustrated by the staunchness, courage and vigorous combat actions of the Soviet forces. At the same time the air defence of Moscow had become an example of the splendid organisation and execution of the defence of a large centre from enemy air blows. The nazi aviation failed both to do considerable damage and to disrupt normal life of the capital even when it was a front-line city.

During the Great Patriotic War formations and units of the Air Defence Forces shot down over 7,300 enemy planes, destroyed more than 1,000 tanks, nearly 1,500 artillery pieces and mortars and also a vast quantity of other combat equipment and manpower.

The Air Defence Forces today are the forces of constant combat readiness, one of the sophisticated and technically equipped fighting services of the USSR Armed Forces. They include antiaircraft rocket forces, air defence aviation and radar troops. These arms of the service are developing with comprehensive account being taken of the experience of the Second World War and post-war practice, and the achievements of modern military science and materiel.

The antiaircraft rocket forces possess great fire power. They are provided with various types of AD missile complexes capable of destroying any modern means of air attack through their entire altitude and speed range.

The air defence aviation is the most manoeuvrable arm of the service. It is intended for the destruction of attack devices mainly at the distant approaches to the protected objectives. It is armed with supersonic, all-weather fighter-interceptors with powerful missiles.



**Radar troops** carry out constant radar reconnaissance of the means of the enemy air attack and ensure combat actions of the antiaircraft rocket forces and fighter aviation. They are equipped with modern radars which make it possible to detect any air attack devices and to define their accurate coordinates under various conditions, including the enemy radar countermeasures.

Servicemen of the Air Defence Forces are persistently improving their military skill. Remarkable moral-political qualities, irreproachable discipline and organisation, and constant combat readiness are a guarantee that they will carry out any combat mission. For their great contribution to the cause of strengthening the defense capability of the Soviet state, and for exemplary fulfillment of their duty to the Motherland, a number of units and formations, thousands of the best specialists of the Air Defence Forces have been decorated with Orders and medals.

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## NAVAL FORCES

### SOVIET SUBMARINE ACTIVITY DURING WWII

Moscow SOVIET MILITARY REVIEW in English No 4, Apr 83 pp 37-39

[Article by Rear-Admiral A. Pushkin, Cand. Sc. (Navy)]

[Text]

**DURING THE GREAT PATRIOTIC WAR (1941-45) SOVIET SUBMARINERS ACTIVELY OPERATED ON THE ENEMY'S LINES OF COMMUNICATIONS. THEY SANK OVER 300 TRANSPORTS AND NEARLY 100 FIGHTING SHIPS.**

**B**Y THE beginning of the Great Patriotic War the Soviet underwater fleet was a powerful force, comprising 212 submarines of various types. Their personnel possessed high moral and combat qualities. During the very first days of the war the Soviet submariners began combat actions on enemy lines of communications.

It should be pointed out that sea transportation was of great importance for Nazi Germany. Via the Baltic Sea the enemy imported iron ore from Sweden and timber and cellulose from Finland. Nickel ore was delivered along the Barents Sea. Besides, along the Baltic, Black and particularly Barents seas the Nazis transported troops and means of their support.

During combat actions the Soviet submariners tackled various combat missions: they fought on the enemy communication lines, laid mines, defended their sea routes, carried out patrol service, reconnaissance, transported troops and cargoes, and exercised navigational and hydrographic support of the fleet forces.

The Soviet submariners had to fight in various conditions. In the north, for example, certain difficulties in combat actions were created by the polar day and the polar night lasting for several months, low air temperatures, frequent storms and fogs. In the Baltic area the actions of submariners were complicated by shoal-water, powerful

minefields and artillery positions equipped by the enemy at the exit from the Gulf of Finland. Despite the hardships the personnel of the submarine fleet skillfully carried out the assigned missions, displaying courage and staunchness.

During the very first weeks of the war the Soviet submariners managed to achieve success. In the middle of July 1941 the submarines commanded by Lieutenant-Commanders N. Stolbov and A. Sereda sank the first ships. On July 19 the submarine under Captain 2nd Rank P. Grishchenko laid nests of mines in the area of Danzig Bay. That very day a Nazi ship and later three more transports and a mine sweeper were blown up here.

The submariners of the Northern Fleet acted daringly and courageously. Thus on August 21, the M-172 submarine under Lieutenant-Commander I. Fisanovich went through a narrow and strongly guarded fjord to the port of Petsamo. At the entrance to the fjord an enemy patrol boat was moving at a low speed. The submarine went under it unnoticed, penetrated into the harbour and attacked the enemy transport. Then it slipped out into the open sea. Some minutes later the enemy ships began bombing the exit from the fjord. But it was too late: the submarine went further and further into the sea.

In 1941 alone the submarines of the Northern Fleet frequently broke through to the enemy ports and bases, having sunk over 70 enemy combat ships. Several transports were blown up on their mines.

During the war the tactics of using submarines was developed and perfected. In the beginning mainly a positional method was used, then cruiser warfare in limited areas and at the end of the war on the Northern Sea theatre also a group employment of submarines was practised when submarines disposed in line perpendicularly to the course of the probable movement of the enemy. In this case several submarines positioned themselves at a definite distance from one another as if hanging over the enemy communications. Submariners successfully cooperated with aviation when delivering blows at the enemy convoys.

From the aimed fire by single torpedoes they passed on to salvo fire by several torpedoes and then to the "sheaf" fire. With the development of the means of detecting targets torpedo attacks were carried out using data provided by sonars. This greatly increased their effectiveness.

The artillery weapon was also used when attacking ships and vessels sailing without escort.

On the enemy communication lines the Soviet submariners made wide use of mines. Secretly penetrating into the enemy bases they installed

mine obstacles along the routes of ships' movement. Nearly 30 per cent of tonnage lost by the enemy as a result of the actions of the Soviet submarines was accounted for by mines planted by them. To secure safety of cruising the enemy Command had to carry out mine sweeping which occupied a considerable part of its fleet.

A glorious page was inscribed in the annals of the Great Patriotic War by the Black Sea Fleet submariners. In 1942-43 they sank 42 enemy transports.

Submariners of the Baltic Fleet fought courageously as well. The enemy planted 10,000 mines in the Gulf of Finland. In spite of this, in 1942 the Soviet submariners acted on the expanses of the Baltic Sea for more than six months. They carried out 40 combat cruises and destroyed nearly 60 enemy transports. It goes without saying that success was achieved by a high price: when encountering antisubmarine lines and during combat operations on the enemy communication lines the Baltic Fleet sustained losses. However, the Baltic submariners inflicted tangible losses on the enemy and this exerted a considerable influence on the supply of the German industry and the Wehrmacht.

The nazi leadership was forced to recognise the effectiveness of the blows of the Soviet submariners at the nazi communications. Already in September 1941 Hitler, touching upon the actions of the Northern Fleet submarines, pointed out in a special directive: "The disruption of our coastal communications in the Polar Region by the enemy further limited possibilities in carrying out the Mountain Corps' plans — to capture Murmansk as early as this year." At the conference at nazi Command GHQ on December 22, 1942 it was pointed out that every Soviet submarine that broke through to the Baltic Sea, posed by itself a threat to navigation in the whole sea and imperiled transport ships, which the nazis were short of, for haulage of military cargoes and strategic raw materials.

Becoming alarmed over the growing losses in the sea, the nazi Naval Command urgently began to build up an antisubmarine defence system. In the Baltic Sea, for example, they started raising a convoy service and organising powerful antisubmarine lines. For this purpose the hitlerites had to shift here from the Atlantic naval group West hundreds of fighting and auxiliary ships. The nazi Command had managed for some time to prevent active hostilities of the Soviet submariners in the Baltic Sea.

Only in autumn of 1944 they again stepped up the fight on the enemy sea communication lines. During a short period tangible losses were inflicted.

ed upon the enemy: the Soviet submariners sent to the bottom 24 transports and two auxiliary ships. The crew of the S-13 submarine commanded by Captain 3rd Rank A. Marinesko achieved particular results. On January 30, 1945 at the approaches to the Danzig Bay its submariners sank the nazi liner "Wilhelm Gustlow" having a displacement of 25,000 tons, and ten days later they sank the transport "General Steuben" with a displacement of nearly 15,000 tons. During these attacks 1,300 enemy submarine officers and sailors were killed and a great number of combat equipment and material values were sunk. The furious Führer ordered the convoy commander to be shot after the liner had been drowned.

In 1944 the Black Sea and Northern fleets also began to carry out operations aimed at disrupting the enemy sea communications in which submarines cooperated with the sea air arm and surface ships. Thus, during the offensive of the Soviet forces in the Crimea the Black Sea Fleet carried out an operation to prevent the evacuation of the nazi forces. Eight submarines acted on the enemy communications. During the Petsamo-Kirkenes offensive operation of the forces of the Karelian Front (October 1944) 13 submarines of the Northern Fleet participated. Successive blows of various arms of the fleet's forces, cooperating with each other, made it possible to disrupt shipments through the entire depth of the enemy communications, often securing a complete rout of convoys.

The history of the Soviet naval art is full of examples of the mastership, courage and valour of the Soviet submariners. Even bourgeois military historians were forced to recognise this. A former nazi admiral wrote after the war: "The strength of a Russian submariner lays in his readiness for self-sacrifice. The Soviet submariners lack neither combat readiness and staunchness, nor necessary navigational and tactical abilities."

The Motherland highly appraised the combat merits of the submariners. For courage, valour and high combat skill nearly 6,000 seamen, starshinas and officers were awarded Orders and medals. Twenty submariners became Heroes of the Soviet Union. Four fighting ships were honoured with the Order of the Red Banner and the title of Guards and 12 with the title of Guards. Dozens of ships, several brigades of submarines were decorated with Orders.

Today the Soviet underwater fleet has changed beyond recognition. It has nuclear-powered submarines, equipped with powerful missile and torpedo weapons, and different types of up-to-date diesel submarines. Their crews befittingly carry on and augment the combat traditions of the heroic submariners of the Great Patriotic War.

## CIVIL DEFENSE

### USE OF FILMS IN CIVIL DEFENSE TRAINING

Moscow VOYENNNYYE ZNANIYA in Russian No 12, Dec 82 (signed to press 9 Nov 82) p 19

[Article by Col A. Rudenko, chief of combat training department, deputy chief of civil defense staff of the RSFSR: "Amateur Films on the Screen"]

[Text] In reflecting on the significance of the cinema, we always recall the Lenin words that "...of all the arts, the cinema is most important for us." The cinema has broad possibilities for moral influence and is one of the effective propaganda means.

In the training of the Russian Federation's population in the methods and means for protection against contemporary means of destruction, we also allot an important role to screen aids: motion pictures, film strips, slides, video tapes, and so forth. And it is understandable. Let us say that it is difficult to bring to the students the internal processes in instruments or the dynamics in the course of rescue and emergency damage restoration work, the procedure for the conduct of lessons, or a complex of measures in civil defense [CD]. And here the training film comes to the aid of the instructor. Moreover, diagrams and posters which are often used require great material expenditures for their preparation. But film strips and slides made by amateurs are both simpler and cheaper.

In our republic, films and film strips as well as slides are widely employed and are also created in a centralized manner. However, local civil defense staffs experience certain difficulties. There still are not enough films which consider the specific nature of one or another production works. But this could be done by film amateurs. We have an entire army of them. More than 3,000 film studios, film laboratories, and many so-called unorganized film amateurs are already counted in the republic at present. Thus, in Krasnodar Kray there are 72 such studios, in Novosibirsk Oblast--26, and in Khabarovsk Kray-- 23. Many of them create good motion pictures and film strips.

To popularize this work and make it more active, in the Russian Federation it has now become a tradition to conduct film festivals. The first one took place seven years ago. And now the fourth one has been conducted which was devoted to the 50th anniversary of USSR Civil Defense. Its results showed that the ideological-artistic and scientific-methodological level of the pictures has been raised and their quality was also improved.

The films which won prizes were viewed with interest: "Party Concern for Civil Defense" (Kuybyshev Oblast) and "Miners Must Be Ready" (city of Yuzhno-Sakhalinsk). The film "Volunteer Aid Detachment in Action" created by a mechanic of the "Sibsel'mash" (Novosibirsk Agricultural Machine-Building Plant), Yu. Yemel'yanov, won the approval of the judges and those present. By means of interesting frames, the author was able to show instructively the actions of the members of the voluntary aid detachment of his plant on practical lessons.

Each year, millions of workers of cities and villages view the films of amateur film makers. In Leningrad Oblast, for example, more than 40 films were created and about 700 showings took place attended by 60,000 viewers. In Alray Kray 8 such films were seen by 28,000 viewers. The same can be said of Kuybyshev, Novosibirsk, Moscow, and a number of other oblasts. As reported by the author--amateur film maker E. Zoloyev ("Elektrotsink" [Electric Zinc] plant, Ordzhonikidze)--there are 12 film shorts already at this enterprise. They have all been shown several times and the plant club was always full. A new film is shown for all shifts of workers and employees.

The special interest in amateur films is caused by the fact that workers, kolkhoz farmers, employees, and pupils see themselves and their comrades; they see how civil defense measures are to be accomplished in their enterprise or educational institution. Once, in Perm', I had the occasion to attend a lesson which was conducted with workers and employees by the installation's civil defense chief of staff. He used an amateur, even silent, film which was photographed on 8-mm film. He explained the frames himself. Nevertheless, they viewed it with great interest and acquired the necessary knowledge.

In recent years, amateur screen aids have begun to be introduced more actively in educational institutions and at installations. A repeated participant in our festivals, the chief of the civil defense department of the Kuban' Agricultural Institute, L. Rusman, has calculated that the transmission of information contained in 20-30 frames requires 30-35 minutes of the instructor with the use of a film strip and 1-1.5 hours without it.

This work is well organized in the Moscow Institute of Steel and Alloys. The civil defense cycle has several films, film strips, and slides which permit studying 8 of 11 program subjects.

Screen aids found wide employment in civil defense lessons in the schools. In Moscow Secondary School No 627, they created short color films by their own efforts and the youngsters view them with interest.

Practice proves convincingly that film festivals are necessary. Something new and interesting is disclosed on each of them. Thus, at the last film festival amateur A. Anuchin (Moscow) presented automatically changing slides which are accompanied by an announcer's text with musical background. Now a number of amateurs presented recordings from a video tape recorder outside the competition. And this is not by chance. In accordance with equipment standards, educational institutions and civil defense courses have begun to acquire not only cinema photography equipment, but also video tape recorders. Thus, the possibility of creating video recordings quickly and without large expenditures and professional training and to use them in the training process appeared. Good video recordings were presented, for example, by comrades from Omsk, Voronezh, and Kemerovo Oblasts.

But this is only the beginning. The video tape recorder is a promising and effective means. At the next festival, in all probability, we will accept video recordings already at the level of cinema films and film strips. And this means that they will find the broadest application on civil defense lessons.

In analyzing the work of amateur film makers, we come to the conclusion that the necessity is ripe for the creation of amateur film studios with civil defense headquarters or courses of autonomous republics, krays, and oblasts where cinema-photo-video equipment will be concentrated. The studios will unite the amateur film makers and will direct them toward the creation of films which will permit raising the effectiveness of training civil defense formations.

At the same time, we cannot fail to state that, from year to year, we are noting poor work on the creation as well as the use of films by the civil defense staffs of the Buryat ASSR and Ivanovo, Penza, Ul'yanovsk, Kirov, and Tomsk Oblasts. Here, they still underestimate screen aids in the training process. Individual films have weak scenarios, the dynamics of exercises are not sufficiently shown, some actions are dragged out, and the music is not always properly selected. Unfortunately, chronicle-propaganda motion picture films rather than training films predominate for the present. And too few film strips are still being created.

For all that, the skill of the amateur film makers unquestionably has grown. And their work should be encouraged and made more active in every possible way.

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## CIVIL DEFENSE

### LECTURE ON TASKS, RESPONSIBILITIES OF POPULATION

Moscow VOYENNNYYE ZNANIYA in Russian No 12, Dec 82 (signed to press 9 Nov 82) pp 21-22

[Article by Col A. Zaytsev: "The Tasks and Obligations of the Population: The First Subject"]

[Text] With this edition we begin publication of methodological materials on the new Program for the Training of Workers, Employees, and Kolkhoz Farmers in Civil Defense. The editors intend to publish articles on the remaining subjects in the first five editions of 1983.

In studying the subject, "Civil defense and the basic tasks and obligations of the population in accomplishing its measures" (1 hour) it is expedient to examine three basic questions: the CPSU on the aggressive essence of imperialism and the necessity to strengthen the country's defensive might; the role and place of civil defense in the overall system of defense measures; and the basic obligations of the population in the accomplishment of civil defense [CD] measures.

The 26th CPSU Congress provided a profound scientific analysis of the contemporary international situation and made a most important contribution to its further improvement. However, the situation in the world remains extremely complex and contradictory. Here, the edge of imperialism's aggressive policy is directed against the Soviet Union--the bulwark of universal peace and social progress. The reactionary forces see the main obstacle in the path of implementing their aggressive plans in the person of the USSR and the other fraternal socialist countries. Using slanderous fabrications about a "Soviet military threat" as a cover to justify their own military preparations, the ruling circles of the imperialist states, and first of all the United States, are whipping up the arms race in an intensified manner. Military budgets are growing in an unrestrained manner in the United States, in the other NATO countries, and in Japan. Colossal resources are being expended on the creation of new lethal types of weapons--the neutron bomb, cruise missiles, super-powerful nuclear submarines of the Trident system, the new MX mobile-based inter-continental missiles, and others.

Under these conditions, the Soviet Union and the fraternal socialist countries are undertaking effective measures to strengthen their economic and defensive power and raise the vigilance and combat readiness of the Armed Forces. V. I. Lenin's teaching on the protection of the socialist fatherland and the principles for the

military organization of the socialist state which he elaborated are the basis of the CPSU's policy in the matter of strengthening the country's defensive capability. Also imbued with these principles are the provisions of the Soviet constitution in which the relation of the state and the entire Soviet people to the protection of the socialist fatherland is clearly formulated: "The protection of the socialist fatherland is among the most important functions of the state and is a matter for the entire people."

Our constitution guarantees many rights and freedoms for the citizens of the USSR. But at the same time, it imposes on them important and honorable responsibilities. And one of the most important of these responsibilities is the protection of the fatherland--the sacred duty of each Soviet citizen.

But if, all the same, the imperialists succeed in unleashing a world war with the employment of weapons of mass destruction, the objectives for employment may prove to be not only the Armed Forces, but also many populated places on the entire territory of the country. In contemporary war the boundaries between front and rear are erased. The rear, which ensures the might of the Armed Forces, now requires reliable protection which civil defense is called on to accomplish in an inseparable link with the Armed Forces. The tasks which it accomplishes--preservation of the population as the basic productive force, ensuring the stability of the economy, and the preservation of material and technical resources--have paramount importance. To a great extent, they predetermine the viability of the state.

The predecessor of civil defense--the local air defense--made a worthy contribution to the victory in the Great Patriotic War. Now civil defense, whose 50th anniversary was marked recently, has become a component part of the system of state defense measures which are being implemented for the protection of the population and the national economy of the country against weapons of mass destruction and other means of enemy attack and for the conduct of rescue and emergency damage-restoration work in stricken areas. In addition, its forces are involved in work on the elimination of the aftereffects of natural disasters, major mishaps, and catastrophes.

The CD tasks in a possible nuclear-missile war are extremely complex and varied. They can arbitrarily be divided into three groups in accordance with their nature and trend. The first group includes tasks connected with ensuring the protection of the population against contemporary enemy means of destruction. The accomplishment of these humane tasks is attained by the covering of the population in protective structures, dispersal and evacuation from big cities to the out-of-town zone, and providing individual protective equipment.

The second group of tasks envisions ensuring the stable operation of installations and branches of the national economy under special conditions, maintaining their ability to put out the established production in volumes and product lists envisioned by the corresponding plans and, at installations and in branches which do not directly produce material valuables (transportation, communications, power engineering, and so forth)--to accomplish their functions in any situation.

The stability of installations is attained by raising the reliability of operation and creating back-up sources of energy-, gas-, and water supply as well as reserves of fuel, raw materials, component parts, equipment, and materials; by the improvement

of technological production processes; by ensuring the automatic cut-off of damaged sectors; by the conduct of organizational and technical-engineering measures for the preparation of installations for conversion to the operating regime under special conditions, and so forth.

The third group of tasks includes the conduct of rescue and emergency reconstruction work (SNAVR) in stricken areas, in areas of natural disasters, and in places of major production damage and catastrophes. The accomplishment of these tasks is attained by the creation of non-militarized CD formations and their corresponding training and equipping with equipment, tools, property, instruments, and individual protective equipment.

The basic principle for the organizational structure of USSR Civil Defense is the leading role of the CPSU and the responsibility of the Soviets of People's Deputies, leaders of ministries, state committees, departments, associations, and installations of the national economy from top to bottom for the accomplishment of its measures. Civil defense is organized at all installations of the national economy. The order of the CD chief of an installation appoints his deputies and creates the staff, services, non-militarized CD formations, and evacuation organs. The installations of the national economy are that basic link on the condition of which, in the final analysis, the readiness of the country's entire CD system depends.

Civil defense rests on the material and human resources of the entire Soviet Union. It is not only a part of the system of state defense measures, but also a national matter. Each Soviet citizen is required to participate actively in the conduct of CD measures, by this accomplishing his sacred duty.

The training of the population in civil defense is made up of an entire complex of measures. The most important of them are universal training in protective measures and the rendering of self- and mutual assistance as well as participation in rescue operations in stricken areas. Therefore, it is the responsibility of each citizen to master actively the necessary knowledge and acquire practical skills in the employment of equipment and methods of protection against contemporary weapons.

The minimum of such knowledge is also defined by the new Program for the Training of Workers, Employees, and Kolkhoz Farmers in Civil Defense. The program is intended for a three-year period of instruction and presumes that the population will obtain deeper knowledge and confident practical skills for actions under the complex conditions of contemporary war than was the case formerly. It also considers the fact that the Soviet citizen, being trained in educational institutions or undergoing CD training at installations of the national economy in preceding years, already has certain knowledge.

The new program envisages the further consistent rise in this knowledge and improvement of practical skills in the employment of protective equipment. Here, special attention is devoted to drills and the acquisition, consolidation, and improvement of firm and confident practical skills, which will be furthered to a great extent by the population's broad participation in combined exercises at installations of the national economy.

The second responsibility of the population is the undeviating observance and correct accomplishment of all requirements for protection against weapons of mass destruction. Knowledge of the means for protection alone is still not enough. It should be employed skillfully and rapidly. And without practical skills it is impossible to operate either under conditions of the threat of enemy attack, with the conduct of dispersal and evacuation, or on CD warning signals such as in stricken areas, in areas of natural disasters, and in places of mishaps and catastrophes.

The third responsibility is active participation in civil defense measures. It is the duty of each Soviet person to participate in the work on the protection of people, installations of the national economy, farm animals and plants, and food products and water, to construct protective structures, adapt buried premises for cover, and conduct blackout, fire-fighting, and sanitation-hygiene work. In short, to participate actively in all civil defense measures. Only with such activity by the entire population of the country can the necessary protective measures be conducted quickly and on a high level. In which regard, each citizen should be ready for participation in CD measures not only under extraordinary conditions, but also in peacetime.

Finally, the fourth responsibility is to instill in oneself and in his comrades lofty moral-political and psychological qualities. Under any conditions, even in the most difficult and serious ones, the Soviet person should be steadfast and courageous and be examples of organization and discipline.

While conducting CD measures, each Soviet person is required to work out within himself confidence in effective protective measures being accomplished by civil defense and the readiness to accomplish his responsibilities to the motherland clearly and without wavering. And this faith in the effectiveness of protective measures, unquestionably, will come sooner the more rapidly all strata of the population study the characteristics of the damage-causing factors of weapons of mass production and master the entire complex of protection against them.

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## CIVIL DEFENSE

### LECTURE ON CIVIL DEFENSE IN TIMES OF NATURAL DISASTERS

Moscow VOYENNIYYE ZNANIYA in Russian No 12, Dec 82 (signed to press 9 Nov 82) pp 22-23

[Article by V. Makarov, military instructor and social methodologist: "During Natural Disasters"; passages rendered in all capital letters printed in boldface in source]

[Text] The lesson on the subject, "Actions of the population in areas of natural disasters" is theoretical. The program of primary military training recommends working it out with consideration of possible natural disasters which are typical for given terrain. Therefore, one should not be carried away by a narration about all possible natural disasters.

It is expedient to study the subject in the following sequence. First, disclose the concept of a "natural disaster" and, if possible, present examples which are typical for a given region. It is useful to dwell on cases where natural disasters arose through the fault of a person, as a result of his activity without consideration of the ecological balance which has been formed in nature and failure to observe the elementary safety requirements. It is necessary to show graphically the tremendous work which is being conducted ahead of time by the organs of authority for warning of natural disasters or to reduce their aftereffects. Special attention should be devoted to the warning procedure. After this, disclose the rules for the population's behavior and its participation in eliminating the aftereffects of natural disasters.

The film strips "Actions of the population in areas of natural disasters" and "The non-militarized civil defense [CD] formations in combating natural disasters" help to ensure greater clarity on the lesson. However, it is not recommended that the entire film strip be shown; it is more expedient to illustrate a thought which has been expressed with one or two frames. If the military instructor has available a set of photographs from places of natural disasters which have been published at various times in the press, it is useful to show them using epidiastope.

The material of the 11th subject offers greater opportunities for indoctrinational work. Therefore, in telling about one or another natural disaster it is important to stress the courage and selflessness of Soviet people at moments of trials. For example, in speaking of earthquakes one can cite the following fact from the book "Lyudi i dela grazhdanskoy oborony" [People and Civil Defense Matters]. Men from one of the civil defense units and representatives of 37 of our country's nationalities arrived to eliminate the aftereffects of an earthquake in Tashkent in 1966.

Risking their lives they boldly penetrated into the destroyed and damaged buildings, rescued victims, and carried children, old people, and the sick from the ruins, thereby demonstrating indestructible ties of brotherhood which bind our peoples.

The presentation of new material can also begin with an example which was reported in the press or on television. The following variant is possible: on 4 September 1982 the newspaper KOMSOMOL'SKAYA PRAVDA, in an information report "People and the Waterspout" reported on flooding on the Black Sea coast of our country. Such phrases as these were there: "The water rose swiftly.... It was necessary to abandon the housing at once, get out on the street, and look for a high place--shelter.... Such cases very seldom occur without human suffering. I saw a rather young mother... they told me that she was young, otherwise I would not have believed it. The woman grew old with grief. A stream of water tore from her arms her tiny daughter whom I just could not save...." From my own experience, I can say that such a start will leave no one indifferent.

On the lesson, the pupils should master the fact that by natural disasters we mean various phenomena of nature which cause sudden disruptions in the normal vital activity of the population, and also the destruction and obliteration of material valuables. They include earthquakes, floods, forest and peat fires, mud flows, landslides, avalanches, hurricanes and storms accompanied by drifting sand and snow, and so forth. The reason for natural disasters is often the activity of man himself, failure to observe safety measures (forest fires), and the conduct of construction and operational work without consideration of the terrain's geological conditions (landslides and avalanches).

Next, the military instructor moves on to the presentation of the rules of behavior and the actions of the population with specific natural disasters (with consideration of local conditions). Before telling about EARTHQUAKES, it is expedient to explain some of the terms which are encountered in reports on this natural phenomenon.

Thus, an earthquake is a specific phenomenon which occurs in specific sectors of the Earth's crust. The region for the origin of an underground shock is the focus of the earthquake. A point is usually distinguished at the center of the focus which is called the seismic center. The projection of the seismic center to the Earth's surface is called the epicenter. The intensity of an earthquake is measured in points on a 12-point scale. With 6-7.5 points small cracks are formed in the walls of buildings and the plaster of walls and ceilings falls down; with 7.5-9 points numerous cracks and gaps in the outer walls, interior partitions, and so forth arise in buildings not designed for seismic effects; the complete destruction of buildings occurs with more than 9 points.

In telling about earthquakes, it is expedient to present examples (of course, if they exist) which are typical of the given region. Here, it should be stressed that there are considerably fewer victims where the population knows the rules of behavior during earthquakes and is able to function in such cases.

Having received warning of the threat of an earthquake or the detection of some of its signs (the appearance of the odor of gas in the regions where formerly the air was pure, the restless behavior of domestic animals and birds, the sparking of electric conductors which are located close to each other, and so forth), one should function quickly and without panic.

On lessons, it is expedient to create a situation where the pupils, based on knowledge obtained earlier and life's experience which has been accumulated, seek the correct solution jointly with the military instructor. Here are two possible examples.

"You are at home. Over the radio you hear a warning about the threat of an earthquake. What are your actions?" The solution is as follows: "It is necessary to turn off the heating equipment and gas. If the stove was burning, extinguish it. Dress the children, the sick, and dress yourself, take the necessary things, a small supply of food products, and documents and move out to territory which is not obstructed. Subsequently, it is important to observe public order strictly and execute precisely the instructions of the emergency commissions which are usually created to eliminate the aftereffects of natural disasters."

The second special situation: "An earthquake has ended and work was begun on eliminating its aftereffects. What are the responsibilities of the senior pupils at this time?" The answer may be as follows. On the call of the local organs of authority and the CD control organs, they participate in immediate rescue and emergency reconstruction work in the areas of destruction. The girls who are engaged in the program for medical-sanitation training can render assistance to institutions and the civil defense medical service, in particular, in preventing outbreaks of infectious diseases.

The rules of behavior and actions of the population during FLOODS can be worked out approximately in accordance with the following scheme. First, explain that flooding is the temporary inundation of a considerable part of the dry land with water as a result of the falling of abundant precipitation or the intensive melting of snow (glaciers) which contribute to the emergence of high-flood water and a sharp rise in the level of the water in lakes and rivers.

Measures accomplished in good time for the protection of cities and villages from flooding include the construction of the appropriate hydraulic works, the preparation and conduct of the evacuation of the population and farm animals, and the removal of material valuables from areas of possible inundation. The time and order for the evacuation of the population are announced by radio and television and by the management of enterprises, institutions, and educational institutions.

Next, the instructor can turn to the class with the following special situation: "The area in which you live may be inundated. What information should you receive in connection with the forthcoming evacuation?" The answer--information on the place for setting up the evacuation assembly posts and the times to report as well as the routes of movement when evacuating on foot and other items.

It happens that flooding sets in suddenly and we were unable to evacuate the population in advance. Then the actions of the population are determined by the specific situation. Warning is accomplished by all available technical means, including with the use of mobile loudspeakers.

On the lesson, it is expedient to pose the following question, for example: "You live on the first floor of a five-story building. A swift rise of the water is observed on the street. What are your actions?" The answer: "I will climb to the

upper stories." Another question: "You are in the field and you see that it is being flooded. What are your actions?" Answer: "I move to an elevated place or climb a tree. If there is no cover anywhere and the water comes in, I abandon my heavy clothing and footwear and try to stay afloat using floating objects."

In concluding the study of this training problem, the military instructor stresses that in case of sudden flooding of the terrain civil defense forces, troops, and the population organize the search for and rescue of victims. Under any conditions, it is important to observe discipline, not to submit to panic, and execute the instructions of the organs of authority without demur. In the case of evacuation from the flooded zone the population, including schoolchildren of the senior classes, will take part in driving farm animals away and rescuing material valuables, in the repair and erection of watertight structures, and in other work.

The next training problem is the rules of behavior and actions of the population during MUD FLOWS. The military instructor explains beforehand that mud flows are a mixture of water, clay, gravel, stones, and boulders which is carried from the mountains at a speed of up to 15 kilometers per hour. In our country, important work is being conducted to protect cities and villages from mud (the strengthening of dams, the erection of embankments, the construction of mud-flow traps and drainage canals, the planting of forest cover, and so forth).

With the advance of the mud flow the population may be warned of the immediate danger dozens of minutes in advance and, more rarely, an hour or more in advance. The approach of a mud flow is evidenced by a characteristic sound of boulders and stones which are rolling and striking one another and which recalls the sound of a rushing train. The pupils should know how to help a person who has landed in a mud flow (giving him a pole, cable, or rope which he could grab) and how to pull people from the flow (with the direction of the flow, gradually approaching its edge).

LANDSLIDES are the sliding of tremendous masses of soil, with all the buildings and structures located there, along mountain slopes. Our landslides occur primarily in the mountain regions of the Crimea, the Caucasus, and the Carpathians and on the steep and high banks of some rivers. Measures are adopted ahead of time to combat them (regulating the water runoff in a dangerous zone, tree plantings, and so forth).

With the threat of the formation of a landslide the population is evacuated to a safe zone. In leaving the premises, one should extinguish the stove, shut off the gas cocks, and turn off the light and electric appliances so as to thereby prevent fires. If no time remains for evacuation, then just as with the approach of a mud slide one should leave the dangerous place as quickly as possible, warning one's neighbors of the danger.

The majority of the pupils should know the rules of behavior and the actions of the population during DRIFTING SNOW since a considerable part of our country's territory is subjected to these natural disasters. Snow drifts, which are formed as a result of prolonged snowfalls, affect economic activity and often serve as the cause of death of people. Therefore, with the receipt of a warning concerning a threat of snow drifts movement is limited, especially in rural country, and supplies of water, food, and fuel are created. In individual regions, cables are stretched along the streets between building which help in orientation and in overcoming a strong wind.



On the lesson, it is expedient to examine various situations in which people may find themselves. Here is one of them: "You are in a light vehicle, a snowstorm began, and drifts arose. What should be done in such a case?" Together with the military instructor, the pupils find the correct solution: Do not try to surmount the drift; it is necessary to stop, close the vehicle's louvers, and cover the engine from the direction of the radiator. If possible, turn the vehicle with the engine to the windward. See that the engine is not buried by snow. Warm it up periodically, first checking to see that the exhaust pipe is not under the snow.

The military instructor can begin the narration about the rules of behavior and actions of the population during FIRES with an excerpt from the newspaper SOVETSKAYA ROSSIYA of 3 July 1982. "...A forest fire raged for several days in the Far Eastern taiga, engulfing 1,200 hectares.... And one person was the culprit!... Geodesist Avdeyev, who violated an elementary rule: to dig a trench around the location of a campfire." This is the price which is paid at times by the carelessness, negligence, or unconcern of one person.

Next, it is expedient to organize an interview, considering that the majority of schoolchildren have experience in fighting fire in a forest. They can be given a question such as: "You came to a forest as part of a group of tourists, and saw that a group of small children is trying to extinguish a campfire which is flaming up more and more and is going out of control. How do you proceed in this case?" The expected answer: "We try to beat down the edge of the fire with branches, seeing that the coals, burning brushwood, and leaves are thrown back on the sectors which have burned down. If there are shovels, bury the edge of the fire with dirt."

During the talk with the pupils, special attention should be devoted to safety measures during fires. Frequently, being caught by a forest fire, people try to run away from the fire in the opposite direction without estimating its speed of movement. With a low forest or steppe fire, one should cross the edge of a fire against the wind, covering the head with outer clothing.

On the lesson, it is also useful to remind the pupils how to extinguish burning liquids and an electric wire which has caught fire and how to surmount a burning and smoke-filled room, that is, information which they received on the lesson on the fifth subject.

#### Recommended Literature

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"Grazhdanskaya oborona" [Civil Defense]. A textbook for training the population. Moscow, Voenizdat, 1980.

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## CIVIL DEFENSE

### TRAINING GUIDE FOR PROTECTION AGAINST NUCLEAR BLASTS

Moscow VOYENNNYYE ZNANIYA in Russian No 1, Jan 83 (signed to press 8 Dec 82)  
pp 22-23

[Article By Maj Gen Tech Trps M. Maksimov: "Nuclear Weapons and Protection against Them"]

[Text] We are presenting methodological material for training leaders under the new program to use for the second subject, "Enemy Nuclear Weapons and Fundamentals of Protection against Them — Characteristics of Protection against Explosions of Neutron Weapons," and for the third subject, "Chemical Weapons and Fundamentals of Protection against Them." We recommend that the diagram published in this issue on the inside back cover and A. Ivanov's article "The Pentagon's Barbaric Weapons" be used for the study of these subjects.

Two hours are allocated for study of this subject. The training leader explains the concept of "nuclear weapons," considers their destructive factors in greater detail, and devotes most of the training time to familiarizing the students with means and methods of protection. He supports his narrative with the diagram (see inside back cover), which allows saving time and makes the material more graphic and intelligible.

The term "nuclear weapon" usually refers to ammunition whose action is based on using the energy released in the form of an explosion during nuclear transformations. Ammunition based on use of the "splitting" reaction is called nuclear; weapons based on the "splitting-synthesis" and "splitting-synthesis-splitting" reactions are called thermonuclear. Ammunition with an increased output of the neutron stream within the penetrating radiation is customarily called neutron ammunition.

All these variations of nuclear weapons have several destructive factors which must be reviewed in order at training periods so that the trainees have a better understanding when they select the means and methods of protection in each particular situation.

It is necessary to mention the first moments of a surprise nuclear explosion. The bright flash that occurs, preceding the destructive action of the weapon by fractions of a second, is a kind of signal to protect yourself immediately: lie down behind some natural shelter or simply throw yourself on the ground.

The flash is followed by heat radiation, penetrating radiation, the shock wave, and radioactive contamination of the terrain caused by fallout from the cloud that has formed. These are the principal destructive factors of the nuclear weapon. When speaking of them in a definite order, the training leader correlates all this with questions of protection.

It is wise to begin with the shock wave, because it is the main destructive factor of a nuclear blast. Why? Because it not only destroys people, but also damages and destroys physical assets and creates zones of devastation and fires on the terrain that make actions by the population difficult. Injuries of different degrees of seriousness depend on the quantity of excess pressure in the front of the shock wave. At a pressure of 1.2-1.3 kilogram-force per square centimeter injuries are fatal; at 0.5-1.2 serious injuries and contusions are observed; at 0.28-0.5 injuries of medium seriousness occur; and, at 0.14-0.28 kilogram-force per square centimeter there are mild injuries. The last figures determine the extreme boundary of the zone where people are disabled. At a pressure of 0.1 kilogram-force per square centimeter the shock wave is no longer dangerous. The concept of zones should be illustrated on a map.

The shock wave acts in a rush and causes damage by the sharp drop in pressure in its front; but it also has an indirect effect caused by flying fragments, broken pieces of buildings, falling trees, and the like. The compression is transmitted from layer to layer. In the compression phase air particles are shifted behind the front of the shock wave; in the thinning phase they go in the opposite direction. This is perceived as powerful wind pressure. Drawing everything that rises above the ground behind it, the high-speed pressure head of masses of dense air destroys structures and injures people. A person who is standing can be thrown a long distance. But if the person had time to lie on the ground the probability of being injured is lessened by about 2.5 times.

The pressure in the front of the shock wave also destroys structures that are dug into the ground. It is customary to determine the radii of the zones in which objects are knocked out according to special formulas based on the pressure in the front of the shock wave. The probability of injury to people is much higher in populated points because of the indirect action. To lessen the effect of the dynamic pressure and avoid injury, one must erect at least elementary shelters and set up strong screens. Structures with closed contours (antiradiation shelters, refuges, basements and crawl spaces with reinforced ceilings, underground cavities, and the like) significantly lessen the pressure and impact.

The next destructive factor of the nuclear explosion is the heat radiation. It causes four degrees of burns. Thus, with light pulses up to five calories per square centimeter first-degree burns are possible; in this case people still preserve the ability to act. Strong heat radiation on the retina of the eye may result in burns on the eyelids and mucous membranes and temporary (from a few to dozens of minutes) blindness.

The heat radiation carries a threat of massive fires. In populated points they break out with light pulses of 6-16 calories per square centimeter, while in forests the figure is 10-18 calories per square centimeter. With a light haze the magnitude of the pulse is cut in half; with light fog and cloudiness it is reduced by a factor of 10, and with dense fog by a factor of 20.

Penetrating radiation and radiation from contaminated terrain are dangerous factors of destruction. The active time of penetrating radiation at the moment of the blast is a few seconds. The living tissue of the organism is ionized, which leads to various degrees of radiation sickness. The severity of the illness is determined by the magnitude of the total dose of exposure to Gamma quanta and the stream of neutrons. With a dose of 100-200 roentgens first degree radiation sickness occurs, while for 200-300 roentgen it is second degree, for 300-500 roentgen third degree, and for more than 500 roentgens it will be a grave illness and death. Injuries are mainly to the blood formation organs. The decrease in the number of leucocytes reduces the organism's resistance to infection; decrease in erythrocytes causes oxygen deficiency in the tissues and impairs the process of blood coagulation (abundant bleeding even with slight wounds).

Trainees must know that there are reliable means and methods of protection against penetrating radiation. It is weakened when it passes through various materials. It is customary to characterize the degree of weakening of radiation by a layer that cuts it in half, that is, by the ability of a particular protective material to reduce the dose of penetrating radiation by one-half. The following figures show the layers that reduce penetrating radiation by one-half for Gamma radiation and, in parentheses, the neutron stream: water — 23 (3) centimeters; wood — 30 (10) centimeters; ground — 14 (12) centimeters; concrete — 10 (12) centimeters; steel — 2.8 (4.7) centimeters; and, lead — 1.8 (8.7) centimeters.

As we see, protection against penetrating radiation is possible by creating various kinds of screens.

Finally, the fourth factor is contamination of the terrain as the result of radioactive fallout from the cloud of the nuclear explosion. Emission occurs during the process of decay of these substances. The Gamma quanta are dangerous. In addition, radioactive dust emits Alpha and Beta particles which have a high ionizing potential. Such dust, striking exposed segments of the body, causes inflammation and sores, and when it penetrates the organism causes internal exposure. But it should be emphasized that this is only under conditions of heavy dust formation or when people do not even use elementary means of protecting the respiratory organs. Timely (within 2-3 hours) removal of the dust during partial disinfection is quite effective.

It is somewhat simpler to protect oneself against exposure to radiactively contaminated terrain than against penetrating radiation. The half-value thickness in this case is a .4 centimeter for ground, 5.6 centimeters for concrete, 1.8 centimeters for steel, 21.4 centimeters for wood, and 12.2 centimeters for water.

The degree of contamination of terrain is characterized by level of radiation. As the result of the decay of radioactive substances it decreases on the principle "7-10," which means that as the time increases seven times the level of radiation decreases 10 times. Based on this, it can be seen that the drop in levels will be especially intensive during the first two days. Trainees must memorize the fact that in just the first two hours after the explosion the level of radiation drops by almost one-half.

The training leader should say a few words about the electromagnetic pulse, a factor which affects instruments, radiocommunications equipment, and electrical

circuits. During the nuclear reaction electrical and magnetic fields that resemble those which occur in the atmosphere when lightning is discharged form as the result of the splitting of positive and negative charges. Their action is brief (fractions of a second). A distortion of the earth's magnetic field occurs, which causes a weakening of radio signals and a change in the direction of radio waves. This ultimately leads to a worsening of radio communication or even its disappearance.

At the same time the electromagnetic pulse, acting on overhead power lines, cables, and even on internal circuits, causes large electrical surges which knock out equipment, instruments, and communications devices. Various types of fuses that localize the effect of the electromagnetic pulse are employed to avoid this.

At this point the training leader concludes his explanation of the essence and character of the action of the destructive factors of a nuclear explosion. We should note that these explanations have already been correlated to some degree with the main concepts of the principles of lessening the effect of weapons of mass destruction. To check on how well the material has been assimilated, the leader quickly questions the trainees, calling on one or two people for each question. Then, with some idea of the principles of protection against nuclear weapons, the trainees will be more consciously receptive to the next section of the subject: the chief ways and means of protecting people.

It should be stressed immediately that people can be protected only if the whole set of ways and means is used. The main thing in this is to be able to withdraw to protective structures on time, to take shelter in underground excavations, caves, gulleys, pits, and ditches, and to occupy strong basements, cellars, and crawl spaces beneath buildings. This is done on the signal "air alert."

Enclosed-type protective structures reduce the probability of combined injury by 5-8 times. Open-type structures such as excavations in the ground and trenches reduce the action of the principal destructive factors by 1.2-2.5 times compared to open terrain.

In enclosed structures the necessary level of protection is accomplished by installing a protective thickness corresponding to the design of the frame and entry and sealing off openings so that the shock wave cannot penetrate. The strength of the frame and entry withstand the pressure in the front of the shock wave. The layer of earth covering the structure (protective layer) is made sufficient to reduce penetrating radiation to tolerable levels at the distance where the frame is preserved (for example, 130-150 centimeters in small shelters and 90-130 centimeters in fallout shelters).

It is useful to show the comparable radii of the zones of injury to people on the surface of the land and in protective structures using posters. It is relevant to consider the protective features of the terrain, recalling that adapting to the terrain and making fuller use of its screening properties is one of the significant ways to protect the population. Thus, elevations and excavations reduce the effect of the dynamic pressure, that is, they preclude the thrusting effect of the shock wave and reduce the pressure in this front by 1.1-1.5 times (depending on the steepness of the slopes). Narrow, deep ravines and gulleys (with a depth-breadth ratio of 5:1) running perpendicular to the direction of the shock wave are

especially effective. And on the other hand, if the axis coincides with the direction of the shock wave, the standard and dynamic pressures increase greatly.

In the shadow of elevations and steep slopes the direct effect of heat radiation is completely precluded and penetrating radiation is greatly diminished. Radioactive exposure from contaminated terrain is also reduced on slopes facing the wind and in deep excavations and ravines.

Forests of deciduous trees usually lessen the effect of heat radiation and in zones where the pressure in the front of the shock wave is less than 0.3 kilogram-force per square centimeter they practically eliminate the action of dynamic pressure. But human losses from the indirect effect of the nuclear explosion (falling trees and fires) are possible in the forest where they may not be on open terrain.

Because of the low density of trees a forest hardly reduces penetrating radiation at all. But radioactive dust which settles in the crowns of the trees reduces the dose of radiation by about one-half.

Various objects on the terrain such as buildings, cellars, embankments, quarries, caves, and the like provide some degree of protection against all the destructive factors at the moment of the nuclear blast.

As for the special features of protection against the stream of neutrons when neutron weapons are exploded, all types of structures with an increased layer of earth protection are suitable. And of course, it is necessary to use anti-radiation drugs promptly and to carry on dosimetric monitoring constantly. For the rest, the ways and means of protection are similar to the above.

In zones of radioactive contamination one cannot rely only on protective structures. People who have taken refuge in shelters will not, of course, be able to remain in them continuously. Therefore, a number of measures are taken in this case such as instituting a radiation protection schedule, dosimetric monitoring, utilizing the protective features of the terrain, structures on the surface, transportation, individual protective gear, and antiradiation drugs, and cleaning up after radioactive contamination.

Radiation and chemical reconnaissance plays a special role. It warns the population of possible contamination and exposure and marks out boundaries of zones and routes of escape from the center; this monitoring is carried on constantly. Radiation and chemical observation posts operate in the local areas. Special attention is devoted to seeing that the established warning signal for radioactive contamination reaches everyone, including those who are in protective structures and enclosed areas.

After determining the maximum level of radiation near shelters or on the territory of the site, the civil defense chief establishes a radiation protection regimen, that is, rules of behavior for contaminated areas. From this time on dosimetric monitoring is done by instruments or calculation. Antiradiation drugs are used upon the threat of overexposure.

When a person leaves the protective structures or moves on foot out of a zone of radioactive contamination there is a danger of external exposure and the possibility

that dust will get inside the organism. During the dry seasons, especially on clay and loess soils, the dust that is raised hangs in the air for hours,

Individual protective gear protects the internal organs and skin against radioactive dust. This gear usually includes respirators, gauze masks, antidust cloth masks, and full-bodied suits of clothing with flaps, ties, clasps, and other sealing elements, and rubber footwear. During wet weather in the summer and during the winter if there is no ground wind, the respiratory organs do not have to be protected.

It is essential to give the trainees a general understanding of complete and partial special disinfection. This includes partial or complete medical disinfection, decontamination of terrain, and decontamination of vehicles, equipment, and clothing. Partial special decontamination is done several times, especially when spending long periods of time in zones of radioactive contamination.

Evacuation and dispersal are part of the program of civil defense protective measures. This method of protection will be considered in detail later (subject 8). The training leader merely emphasizes that reducing the density of population in cities greatly decreases losses. Workers and employees who are subject to dispersions move into the suburban zone. From there they travel to work and come back for time off. It is recommended that facilities which continue work have three interchangeable shifts of workers. Calculations have shown that three shifts insures the greatest survival capacity for production. Of course, transporting people involves a heightened danger of exposure on radioactively contaminated terrain. Therefore, antiradiation protection must be reinforced by all possible means in the suburban zone itself and on the routes of travel.

While summarizing the training period on this subject, the training leader restates the questions studied once again, questions the trainees, and points out the additional training literature. It is desirable to find time to show a training film.

[Text to Diagram]

Let us review the use of these charts with a concrete example.

At what distance from the center of a nuclear blast of 100 kilotons will people on open terrain be safe from injury by the shock wave?

We know that a person will not be injured when the dynamic pressure of the shock wave  $\Delta P_{\phi} < 0.1$  kilogram-force per square centimeter.

On the vertical axis of the chart for  $\Delta P_{\phi}$  we find the value 0.1 (somewhere between 0 and 0.25). From this point we draw a line parallel to the axis R until it intersects with the curve  $\phi P_{\phi}$ , dropping a perpendicular line to the axis, we find the distance 4.2 kilometers. We multiply this figure by the figure for the TNT equivalent 1.27 (see the column of figures on the right of the diagram), corresponding to a power output of 100 kilotons. And then we find the answer: at a distance of 5,334 meters people will not be injured by the shock wave.

from the law of  
similarity

$$R(q) = R(q_{\text{er}}) \cdot \sqrt{\frac{q}{q_{\text{er}}}};$$

$Q_{ET} = 50 \text{ K}$

per-standard TNT  
equivalent,  
kilotons

| $q_{KT}$ | $\sqrt[3]{\frac{q}{q_{KT}}}$ |
|----------|------------------------------|
| 20       | 0,74                         |
| 50       | 1                            |
| 100      | 1,27                         |
| 200      | 1,59                         |
| 300      | 1,82                         |
| 500      | 2,16                         |
| 1000     | 2,71                         |
| 5000     | 4,65                         |

Порядок пользования графитом рассмотрим на конкретном примере.

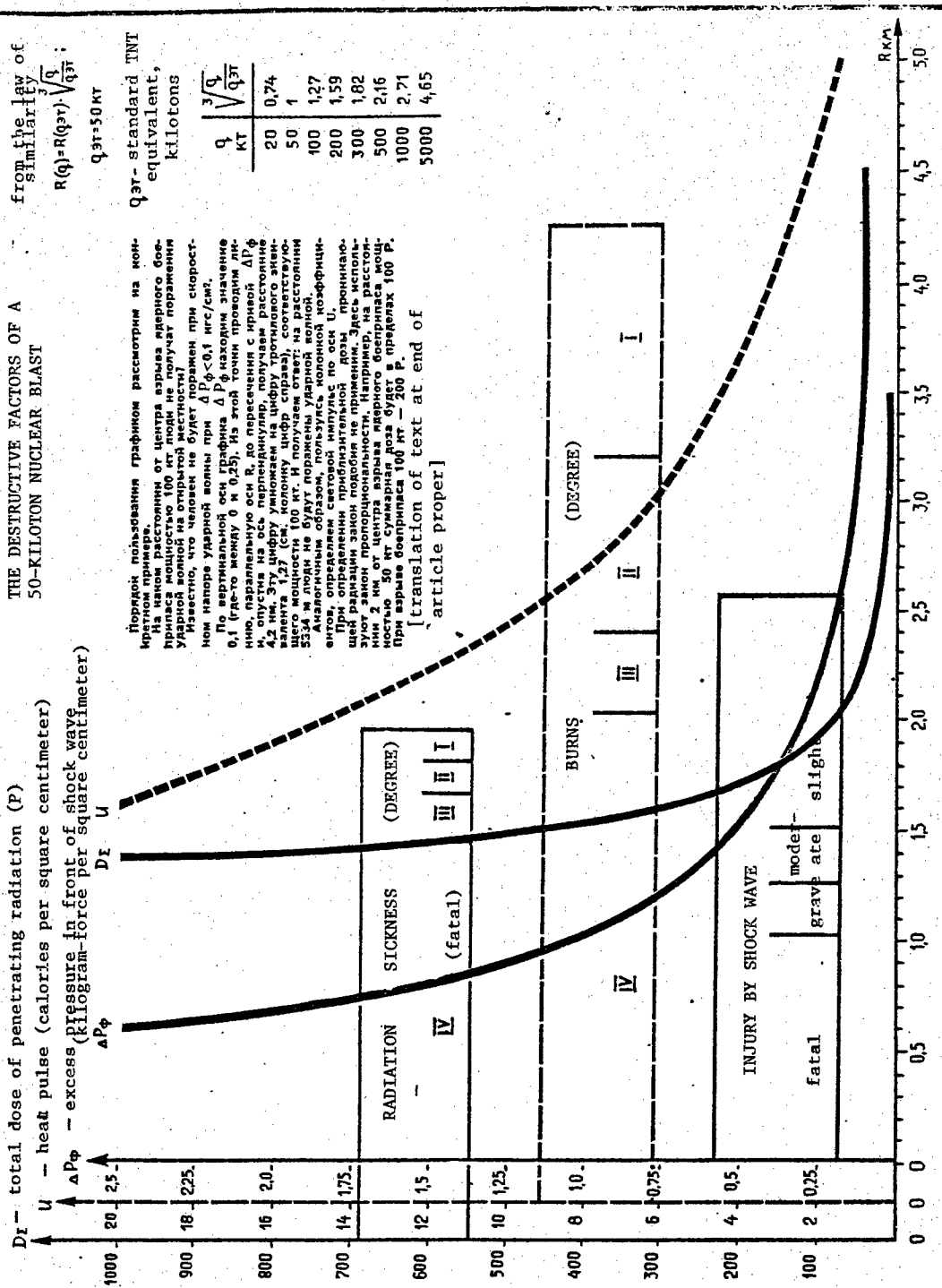
На каком расстоянии от Центра взрыва ядерного боеприпаса мощностью 100 кт люди не получат поражения ударной волной на открытой местности?

Известно, что человек не будет поражен при скоростном напоре ударной волны при  $\Delta P_{\text{до}} \leq 0,1$  мкг/см<sup>2</sup>.

По вертикальной оси графика  $\Delta P$  находим значение  $\Delta P = 0,1$  (расстояние между осями  $R$  до пересечения с кривой  $\Delta P$  равно  $0,125$ ). Из этой точки проводим линию, параллельную оси  $R$ , до пересечения с кривой  $\Delta P$ . Опустив из этой перпендикуляра, получаем расстояние  $R = 1,25$  мм. Это расстояние умножаем на цифру третиногого значения  $1,27$  и получаем ответ:  $1,27 \cdot 1,25 = 1,5875$  мм. При такой мощности 100 кВт и количестве людей не будет превышена важная величина  $333,34$  л/сек.

Применение световой мишуры по оси U, при определении приближительной дозы проникающего радиации закон подобия не применим. Здесь используется закон пропорциональности. Например, на расстоянии 2 км от центра взрыва ядерного боеприпаса мощность излучения составит 100 Вт/м<sup>2</sup>, а на расстоянии 100 Р. — 10 Вт/м<sup>2</sup>. Суммарная доза будет в пределах 100 Р.

[translation of text at end of article proper]





In a similar manner, using the column of coefficients, we determine the heat pulse on axis U.

When determining the approximate dose of penetrating radiation we do not use the law of similarity, but rather the law of proportionality. For example, at a distance of two kilometers from the center of a 50-kiloton nuclear blast the total dose will be in the range of 100 roentgens. For a blast of 100 kilotons it will be 200 roentgens.

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## CIVIL DEFENSE

### TRAINING GUIDE FOR PROTECTION AGAINST CHEMICAL WEAPONS

Moscow VOYENNYE ZNANIYA in Russian No 1, Jan 83 pp 26-27

[Article by B. Rykunov: "Special Characteristics of Protection against Toxic Substances"]

[Text] The term "chemical weapons of the probable enemy" means those combat weapons whose destructive action is based on the use of toxic substances. These weapons today are based on highly toxic nerve-paralytic substances capable of causing mass injuries to unprotected persons and agricultural animals and contaminating the terrain and objects on it for a long time. In this case the ammunition is filled with toxic substances made in advance. A binary chemical weapon has now been developed. This type of ammunition (bomb, missile, or other casing) contains two nontoxic chemical components. Upon firing (dropping) a special mechanism is triggered, the components are mixed, they react with one another, and form a qualitatively new type of nerve-paralytic toxic substance.

Special poisonous substances that are designed to destroy plants (herbicides, defoliants, and the like) are also classed as chemical weapons.

Toxic substances are subdivided into six groups depending on the nature of the toxic action on the organism: nerve-paralytic, blistering, general toxic, asphyxiating, irritating, and psychochemical. In addition, toxic substances are subdivided by tactical designation into three groups: lethal (V-gases, sarin, soman, and yperite) which are designed to destroy populations; irritating (CS) for use by police; and temporarily disabling (the psychochemical substance BI-SED) for impairing people's mental activity.

Let us consider certain combat characteristics of contemporary nerve-paralytic gases (V-gases, sarin, and soman) and means of using them. The V-gases are the most highly toxic, 10 times as toxic as sarin, 200 times as toxic as yperite, and hundreds of times more toxic than prussic acid and phosgene. In terms of toxic properties soman is between the V-gases and sarin.

For using chemical weapons the enemy has 1,000-pound canisters, 750-pound bombs (for sarin), aerial pouring instruments for the V-gases, and aerostats and other flying craft for releasing aerosol ways. It is not impossible that new means will appear in the future if, as foreign specialists believe, new toxic substances which are 10-100 times more toxic than the existing ones are developed.

If the enemy uses chemical weapons there will be zones of chemical contamination and centers of chemical destruction.

The area subjected to direct action by enemy chemical weapons (area of application) and the area over which a cloud of contaminated air with destructive concentrations has spread are called zones of chemical contamination.

It is customary to use the term center of chemical destruction for an area within which mass injuries to humans and agricultural animals have occurred as the result of enemy use of chemical weapons.

There may be one or several centers of chemical destruction depending on the scale of use of chemical weapons in the zone of contamination. The formation of zones and centers should be demonstrated on a map, emphasizing that the depth of zones of contamination depend on the topography, existence of forests, and meteorological conditions. Roughly speaking they may be 12-20 kilometers for V-gases and 30-40 kilometers and more for sarin.

Meteorological conditions, in particular temperature, wind velocity, and the degree of vertical air stability, have a large effect on the condition of a center of chemical destruction. At high temperatures and high wind velocities the persistence of toxic substances in the center diminishes rapidly, while at low temperatures it lasts for a long time. For example, the persistence of V-gases on the terrain in the summer is between a few days and a week, while during the winter it is several months; for sarin (in cones) persistence is several hours in the summer and up to 24 hours in the winter.

Inversion and isothermy promote the preservation of high concentrations and stagnation of toxic substances in the center of destruction, especially in cities, densely built-up areas, thick grass, and the like. They promote the spread of the contaminated air for large distances. Convection causes rapid dispersal of the contaminated air and the concentration of toxic vapor drops quickly.

Let us look at the special characteristics of protection. What is the main thing here? It is to establish the actual fact that the enemy has used chemical weapons quickly and in time, to identify the start of their action. Appropriate instruments exist for this and one can use special films and other very simple indicators.

What are the signs of use of V-gases? At the point of explosion of the bomb, shell, missile, or mine a distinctive cloud of gas, smoke, and mist appears and quickly disappears, spread by the wind or a dark aerosol strip stretches behind an airplane or aerostat; an unusual smell is noticed; plants wilt and change color; the respiratory organs and nose and throat become irritated and sharpness of vision is lessened or lost completely; finally, deviations from the norm (mental disorders) or disruption of motor functions are observed in the behavior of people around.

A gas mask and special clothing can protect a person on open terrain. In cases where not all members of the population have full sets of individual protective gear it will be necessary to adapt ordinary clothing for protective purposes ahead of time. The trainees will master this in practice later.

In any case, where there is a massed attack by aviation the personnel of civil defense formations, enterprise workers and employees, and the remainder of the population must put on gas masks quickly and correctly without waiting for the "chemical alert" signal, and then hurry to the shelters. It is even more essential to get to a shelter on time if the enemy has already applied chemical weapons and a center of chemical destruction has formed. In the course of training every individual must master the characteristics of behavior and actions in a center and in contaminated zones and the rules for filling protective structures in practice.

A vestibule is used to prevent toxic substances from entering the shelter. Contaminated protective gear must be taken off there and put in special containers. Footwear must be decontaminated, preferably before entering the shelter. Ordinary clothing is replaced as much as possible or carefully sprinkled with powder from the special decontamination kit. It is equally important to master the skills of removing protective clothing after performing decontamination, remembering that any contact with its outer sides represents a danger of contamination.

One may go from the vestibule into the shelter proper only after chemical monitoring. Gas masks are removed on command and kept in a ready position. If toxic substances have accumulated in dangerous concentrations, all people immediately put the mask back on and keep them on until a special order is given.

Special decontamination can be done successfully if a small area is set up in front of the entry to each shelter. It should have tanks with decontamination solutions (calcium hypochlorite, DTS-GK, and others), containers for collecting protective gear and contaminated clothing, individual antichemical and decontamination kits, and other items. The personnel of the shelter service team carry out the chemical monitoring.

Special precautionary measures are observed when formations are working in a center of chemical destruction, a contamination zone, and when bringing people out from them. Grass, forests, residential structures, and means of transportation may be contaminated. The possibility that contaminated air will stagnate in low-lying places, enclosed quarters, and underground areas must be taken into account.

After the special equipment, vehicles, and contaminated gear are brought out they are all subjected to chemical monitoring and the personnel accompanying them go through partial decontamination. When working with equipment that has been decontaminated from V-gases it must be remembered that for the first two hours one must not touch painted surfaces, rubber articles, and porous materials with the bare hands because V-gases penetrate deeply into these surfaces.

When leading the personnel of formations and the population out by foot or by a combined procedure it is necessary to take account of wind direction, especially in those cases where people do not have skin protective gear. When an approaching contaminated cloud is spotted all put on gas masks and take steps to prevent the aerosol from getting on exposed segments of the skin. Various types of shelters are used to the extent possible.

It must be emphasized that partial decontamination when V-gases strike the skin is particularly important. It should be done in the very first minutes, right at the center, using the IPP [possibly individual antichemical kit]. There can be no delay, because V-gases are quickly absorbed into the skin. The appropriate antidote should be injected subcutaneously immediately.

When crossing a zone of chemical contamination in motor vehicles on a paved road, speed is increased to the maximum. On dirt roads speed is reduced and the distance between vehicles is kept so that dust does not get into the following vehicles. Contaminated dust is a very dangerous destructive factor.

Chemical control is extremely important. It is mandatory after people and equipment are brought out of the zone of contamination. The procedure is done according to the operative statute.

All these characteristics must be taken into account in training plans, at drills, and when taking the practical tests for the third subject.

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## DOSAAB AND MILITARY COMMISSARIATS

### USE OF QUESTIONNAIRES TO DEFINE PROBLEMS

Moscow VOYENNYE ZNANIYA in Russian No 1, Jan 83 (signed to press 8 Dec 82) p 37

[Article by V. Shirshov, deputy chief of Sverdlovsk Naval School for training-indoctrinational work: "What Is Behind the Extraordinary Occurrence?"]

[Text] From the editors: Problems of raising the effectiveness of student indoctrination in the schools of the defense society are disturbing many. In publishing the article by V. Shirshov, we hope that chiefs of schools, teachers, masters, secretaries of party and Komsomol organizations, and leaders of training groups will comment on it. It is desirable to learn of what is new in individual work with the students and in the military-patriotic indoctrination of the future servicemen.

An extraordinary occurrence took place in the DOSAAF Sverdlovsk Naval School--student Sergey Ivanov landed in a sobering station. The incident by itself goes beyond all moral frameworks, but what is more important here--one of the best students and the hope of teachers and masters "failed." It was believed that we knew Sergey sufficiently well when he entered the school. In particular, it was learned that the lad had a most negative attitude toward alcohol and no one in his family drinks.

Chance--asserted master of production instruction S. Podkorytov, the guide for Ivanov's training group. But the majority of us did not agree with this opinion. It was learned that the decisive role in the accomplishment of the unseemly deed by Sergey was played by his friend who had arrived from another city; it was he who persuaded his friend to mark the meeting "like men."

No, it was not by chance that the youth in whom we trusted gave in to persuasion. It means that we did not know him well and could not notice the "laxness" in the lad at once.

But in general, can all nuances be foreseen in indoctrinal work or, at least, can the degree of risk be reduced when working with pre-draftees?

We pondered over these questions after the extraordinary occurrence. One answer suggested itself: the replacements who are entering the school should be thoroughly studied and there should be an individual approach to the evaluation of each student.

Naturally, everyone agreed with this. Something else was disturbing--the time factor. The pre-draftees come to us for a short time. In literally several weeks, it is necessary not only to teach them but also to help them to realize how important are the moral-political and psychological qualities of the naval seaman. This should be done without wavering and for sure. And so as not to make a mistake and to find the key to each trainee quickly, it is necessary to disclose in the youngsters immediately the special aspects of their nature, inclinations, and habits.

Of course, we also did this earlier and used a variety of methods to study the students. It seemed that it was a usual matter and everything took its normal course: familiarization with documents which arrived from school, from production, and from the military commissariat, talks with each newcomer, and observation of his first steps in training, his activity in social life, and his attitude toward his comrades. The study was basically organized on this, and conclusions were drawn on each of them.

By the way, I will speak about references. As a rule, they provide only general information which can hardly be considered sufficient for effective training and indoctrination. Of course, it happens that namely the reference suggests correct and rapid solutions to us. For example, the reference concerning pre-draftee Valeriy Shepenkov noted features which could not be tolerated. Our observations confirmed the correctness of this and the needed measures were adopted.

But unfortunately, there are frequent instances where references from production even bear an unobjective nature. This can be understood in some places: our students cannot brag about their work experience. However, those managers proceed poorly who "invent" references of this type, disorient us, and push us into errors in the indoctrination of the future servicemen.

School references appear differently. They provide rather complete objective material for pedagogical thoughts and the accurate determination of an approach to a person.

But, I repeat, in practice we used others' references about students very cautiously and, without rejecting them completely, we tried ourselves to get to know each person and to study him. A considerable time under our conditions was spent on this--a month and sometimes even more. And things did not always turn out smoothly, which is shown at least by the case of Ivanov which was discussed above.

Many difficulties also arose when selecting group leaders from among the students and in disclosing the Komsomol activists. For the teachers and the students do not know each other during the first days. It was necessary to get by with half measures: to appoint the leader temporarily, being guided more by intuition and first impressions. And here is what this often led to.

In one of the groups student Sergey Ch. was appointed leader. A sharp and erudite fellow. However, it was soon learned that the person not only had no commanders' inclinations but he was also a poor student. He had a slipshod attitude toward training, missed lessons, and violated discipline. It was necessary to replace him in the post of leader at once by another fellow.

Unfortunately, such instances also occurred formerly. They forced us to think about how to accelerate the process of initial familiarity with the newcomers and to guard ourselves against errors. We conducted the following experiment. On the first day of training, all students were told to answer in writing questions which had been placed before them and which we carefully considered. The answers to them were to become our basis for determining the individual qualities of the youngsters.

I believe that there is no need to list all 26 questions. I will mention only those which, in our opinion, permitted us to "feel" the inner content of each person with sufficient accuracy and to disclose his special features.

Here, for example, are such questions. What would your attitude be toward naval service? Do you have friends and what brings you close to them? Did you have conflicts and quarrels with your comrades? What are your hobbies? What are your plans for the future?

As an example, let us refer to the experience of the mass written questioning of the students which was conducted by master of production instruction N. Gabushina. On the first lesson, she told the youngsters about their future naval specialty, pictured the prospects for service in the Navy, and in conclusion she asked them to answer the questions which had been posed in writing as completely and honestly as possible. About an hour was spent on this. Studying the students' answers later, the master made notes on each of them in her pedagogic journal.

Just what results were attained? First of all, an analysis of the answers permitted us to disclose the attitude of the students to naval service. Only several people out of 26 questioned wrote that they would prefer not to serve in the Navy so that service would be a year shorter. Naturally, these youngsters became an object of more fixed attention and indoctrinational influence on the part of teachers and masters. And the goal was attained--they successfully completed training in the naval school and now are serving in the Navy in an exemplary manner.

The materials of the questionnaire also helped us to disclose those youngsters who needed special supervision and indoctrination. These were students who honestly admitted in their answers that they conflicted with their comrades, participated in fights, and some of them even had been taken to the police, and so forth. It was necessary to adjust plans for political-indoctrinational work, organize lectures and talks on style of behavior, and organize meetings with lawyers and personnel of the police.

And, of course, students who do not conceal that they use alcohol become a subject of special attention. Such, for example, were Vladimir Vyatkin and Aleksey Batuyev. And the fact that the school leadership learned about the youngsters' shortcomings at once helped us in indoctrinational work and in making good naval specialists out of them.

As the results of the school's work show, in 1981-1982 we succeeded in raising noticeably the level of training of the specialists. Correspondence with the fleets shows that our graduates are serving successfully on ships. Good responses were received concerning the irreproachable performance of their duty by alumni of the school Mikhail Kozlov, Nikolay Kondratov, Sergey Vasil'yev, and other youngsters.



Thus, the questionnaire provided favorable results. But I would not want the reader to form the opinion that we consider it to be a panacea for all troubles. Not at all. We understand that this is only one of the forms for the organization of indoctrinational work which is varied for us, and that is why it is effective.

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## DOSAAF AND MILITARY COMMISSARIATS

### IMPROVING PRE-DRAFT TRAINING

Moscow VOYENNNYYE ZNANIYA in Russian No 1, Jan 83 (signed to press 8 Dec 82) pp 38-39

[Article by Col Gen Yu. Naumenko, deputy commander of Ground Forces for civilian military training, chief of civilian military training of Soviet Ministry of Defense, Hero of the Soviet Union: "Important Tasks of the Military Commissariats"]

[Text] The Communist Party and the Soviet government are devoting unremitting attention to strengthening our country's defensive capability and raising the combat readiness of the Armed Forces.

In this connection, ever more significance is being acquired by the primary military training of the youth. It has become a firm part in the life of secondary schools, technical schools, and vocational and technical schools. Many years of practice confirmed that this subject not only gives the future servicemen "purely military" knowledge, but it also furthers the instilling of political consciousness, organization, the improvement of discipline, and physical tempering. In the course of the lessons on NVP [primary military training], the boys and girls learn to be loyal to the cause of communism and the ideas of Soviet patriotism and socialist internationalism. Primary military training was organically inscribed in the training process and has become an integral part of it.

As is known, in 1981 substantial changes were introduced in the program for primary military training. Additional requirements were included in it which permit training pre-draftees and draftees better for forthcoming army service. I should like to stress that the program must be accomplished without fail. Life and practice show what is imperfect in it and, perhaps, what needs revision. However, premature unwarranted "corrections" to this guidance document are intolerable. Military commissariats and organs of popular and vocational and technical education should decisively stop them.

An analysis of the status of primary military training which was conducted in recent months shows that, on the whole, it has improved noticeably. The responsibility of officials for its organization and supplying with everything necessary has been raised in the majority of the republics, krays, oblasts, and rayons. Training-methods work with military instructors is being conducted more purposefully, which furthers a rise in their pedagogical skill. Technical means of instruction and graphic aids are being used more widely on lessons.

The training-material base is being improved and strengthened. The number of educational institutions which have not only a military office and a room for storing weapons, but also all recommended facilities for practical lessons and drills is growing. In this regard, we should note Stavropol and Krasnodar Krays (military commissars Major Generals A. Kashirin and I. Kryazhev). Military-patriotic work with the youth has become more effective.

The quality of primary military instruction depends to a decisive degree on the principals and military instructors of the educational institutions. It is namely thanks to their coordination and mutual understanding in work that good results were attained in primary military training by Secondary School [SS] No 3 of Stavropol' (principal P. Gutnev, military instructor V. Polenov), SS's Nos 43 and 5 of Krasnodar (principals M. Yas'ko and L. Ignat'yev, military instructors M. Shurov and A. Bronnikov), Nekrasovskaya SS No 12 of Ust'-Labinskiy rayon, Krasnodar Kray (principal T. Pitsanova, military instructor G. Pivovarov), SS No 9 in the city of Kishinev (principal A. Stolitsa, military instructor P. Yerevin), Novo-Mikhaylovskaya SS of Sil'yazhskiy rayon and Novo-Poltavskaya SS of Chernigovskiy rayon of Zaporozhye Oblast (principals A. Voronin and N. Yakimenko, military instructors B. Verba and I. Berezhnoy), and SS No 7 of Yelizovo, Kamchatka Oblast.

But along with many favorable aspects in the supervision of primary military training and the military-patriotic indoctrination of the pupils substantial shortcomings also occur. Some principals, military instructors, inspectors and methodologists in primary military training, and officers of military commissariats have poor knowledge of the requirements which are now being imposed on primary military instruction. One encounters this case in the Maritime and Khabarovsk Krays, Sakhalin Oblast, and in individual rayons of the Moldavian SSR. At times it was learned that individual officials are not even familiar with the true state of affairs in primary military training in subordinate educational institutions (Artemovskiy OGVK [expansion unknown] of the Maritime Kray, military commissar Major V. Volkov; Strashenskiy RVK [rayon military commissariat] of the Moldavian SSR, military commissar Lieutenant Colonel Yu. Kimstoch). Unfortunately, there can be no talk of performance here, monitoring the status of primary military training is weak, and no effective measures to correct shortcomings are being undertaken.

In some places, the capabilities of rayon methodological councils and DOSAAF committees are poorly used to render effective assistance and support to military instructors, planning documentation is worked out in an unreasoned and careless manner, and accounting and reporting documents are maintained with great digressions from requirements which have been imposed, including in accounting for weapons.

The great significance which pedagogical skill, energy, and initiative of the military instructor have for primary military training and military-patriotic indoctrination is well known. The mass of the many-thousand-man detachment of military instructors consists of people in whom deep communist conviction, high professionalism, pedagogical style, responsiveness, a strained sense of what is new, and the ability to mobilize pupils for the study of military affairs are inherent. They are able to teach their subject under conditions of a rigid limit in training time.

Nevertheless, it must be stated with regret that proper attention is still not devoted everywhere to such a paramount question as the selection and training of

military instructors. Even with the presence of a large number of reserve officers in cities and villages, noncommissioned officers and privates of the reserve, often not having the necessary military and pedagogical education or experience in working with pupils, are appointed to the posts of military instructors. Thus, in Zaporozhye Oblast 60 percent of the military instructors do not have a higher education, in the Maritime Kray--46, in Khabarovsk Kray--41, and in the Moldavian SSR--35 percent. Naturally, they are experiencing serious difficulties and need constant methodological assistance.

During recent years, we have developed a clear system for raising the qualifications of military instructors through the conduct of various types of assemblies and lessons as well as through instruction at courses with advanced training institutes for teachers. However, it frequently is not utilized with sufficient completeness and effectiveness. In the Maritime Kray, for example, during the last six years less than half the military instructors have gone through courses to raise their qualifications with the advanced training institutes for teachers. Many newly appointed military instructors are not sent to assemblies which establish them as instructors. In a number of places the role of training-methods offices and methodologists of all elements is still low.

As a result, in some rayons of the Far East almost two-thirds of the lessons in primary military training are conducted on a low level which, of course has an adverse effect on the primary military instruction of pre-draftees and draftees.

The requirements of the program of primary military training are seriously violated in a number of educational institutions of Sakhalin and Zaporozhye Oblasts and in some rayons of Moldavia. On lessons, skills in the practical accomplishment of the requirements of the regulations and drill procedures are poorly inculcated in the trainees and, on the firing ranges, small-caliber rifles are replaced by air rifles. This year, field lessons with tenth-graders were not conducted in many oblasts of the RSFSR. Schools, technical schools, and vocational and technical schools are still encountered where intersubject ties are weak and instances of overstating grades in primary military training have not been overcome. Thus, according to the data from the reports of individual rayon military commissariats of the Maritime and Khabarovsk Krays, more than 80 percent of the lessons on primary military training checked by them were graded good and excellent; however, a more thorough check showed that only one quarter of the lessons in primary military training can be graded good here.

It is believed that it is superfluous to say what the training-material base means for primary military training, especially now when primary stress has been placed on the practical working out of problems. Thousands of educational institutions have everything necessary for accomplishing the program for primary military training. In this regard, I should especially like to note, besides, the activity of the military commissariats and organs of popular and vocational and technical education of Stavropol and Krasnodar Krays. It is not by chance that the level of knowledge and skills of the pupils as a whole here proved to be considerably higher than in other places. Many shooting galleries have been and are being constructed in Zaporozhye Kray.

At the same time, serious omissions have been disclosed in the creation of the training base for primary military training in the Moldavian SSR and several krays and

oblasts of the RSFSR: military offices, sites, and other training areas are primitively equipped. Visual aids which are available are obsolete and do not conform to the program, and shooting galleries are not being constructed. At present, there is no complete training-material base complex in any educational institution of the Maritime Kray, in 90 percent of the educational institutions of Khabarovsk Kray, 83--of Sakhalin Oblast, and 79 percent of the Moldavian SSR. In no case can this be tolerated. Military commissariats and organs of popular and vocational and technical education are required to eliminate these shortcomings in the shortest times; otherwise, the teaching of the foundations of military affairs here will, as formerly, fall short of the occasion.

The training of the youth for the defense of the motherland is unthinkable without sport and physical exercises which develop strength, dexterity, and endurance. Attention is merited by the experience of Secondary School No 7, Yelizovo, Kamchatka Oblast, in which all senior pupils confirmed the norms of the GTO [Ready for Labor and Defense] complex, which they had passed earlier, during checks. The youngsters run well, can pull themselves up on the horizontal bar many times each, and are confidently accomplishing long-distance ski trips. And it is not surprising, for sports work is organized in the school in such a way that many of its alumni are rated sportsmen.

However, there are also other examples. In a number of places the taking of the norms of the GTO complex by the pupils showed that about 40 percent of the youths do not cope with strength exercises and 30 percent are unable to shoot accurately.

As is known, museums (rooms) of combat and labor glory are centers for the military-patriotic indoctrination of the pupils. An excellent museum is had by the Goripolisskaya Secondary School of Stavropol Kray--the initiator of the creation of pupil brigades. Here the youngsters are trained for the defense of the motherland, for labor in the fields and on the farms, and for participation in the accomplishment of the USSR Food Program. But sometimes, one also has the occasion to see museums and corners which have been set up in a stereotyped manner, haphazardly, and without good devices and imagination. As a rule, measures on military-patriotic indoctrination in such educational institutions are organized from case to case; they are boring, uninteresting, and do not attain the goals which are set for them. In some places, the military professions are still propagandized poorly.

All the listed shortcomings can be corrected only by the joint efforts of the military commissariats, organs of popular and vocational and technical education, civil defense staffs, and DOSAAF committees which are accomplishing the methodological direction of primary military training.

An inestimable role in the accomplishment of this task belongs to the military commissariats which are required to accomplish the leadership and monitoring of primary military training. First of all, they should systematically discuss the status of primary military training and propagandize widely the experience of the best principals of educational institutions and military instructors; improve the selection and staffing of educational institutions with cadres of military instructors, and render them constant assistance in work, in improving their special knowledge, and in raising their methodological skill; and they should ensure the complete and

quality accomplishment of the program with the observance of the methodological sequence in the study of the sections. They should devote special attention to the working out of practical skills; achieve the creation of a complete training-material base complex in each educational institution in accordance with established recommendations, and adopt all measures for the reliable protection of training weapons, small-caliber rifles, and cartridges for them; and they should continue the search for new, intelligible, and attractive forms for military-patriotic work with the pupils. It is also necessary to analyze everywhere and attentively the first results of the study of the program for primary military training and to outline specific ways for the improvement of primary military training of the youth.

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## DOSAAF AND MILITARY COMMISSARIATS

### LECTURE ON ASU-57 DETAILED

Moscow VOYENNNYYE ZNANIYA in Russian No 1, Jan 83 (signed to press 8 Dec 82) p 42

[Article by Engr-Col V. Knyaz'kov: "Airborne Self-Propelled..."]

[Text] The ASU-57 airborne self-propelled gun enjoys great respect among the paratroopers. Its weight is a little more than three tons. It is armed with a 57-mm anti-tank gun whose practicable rate of fire from in place is from 6 to 10 rounds per minute.

The point-blank range of the ASU-57 (distance from the gun to the target, over the entire length of which the trajectory of the shell's flight does not exceed its height) with a target height of 2 meters is 1,250 meters. And maximum range of fire reaches 6,000 meters.

Used for firing from the gun are fixed rounds with armor piercing-tracer (weight 6.61 kg) and sabot armor-piercing (weight 5.94 kg) shells as well as with a fragmentation shell (weight 6.79 kg). The gun's chief of section determines which round is to be used to destroy a specific target.

The unit of fire of the ASU-57 contains 30 fixed rounds for the gun, 300 cartridges for the Kalashnikov automatic rifle, 20 F-1 hand grenades, and 20 signal cartridges for the 26-mm signal pistol.

Specialists define the ASU-57 as a tracked armored fighting vehicle armed with a 57-mm gun. Thus, it is fighting, armored, and tracked.

If we look at the hull, it can be divided into two parts absolutely clearly: the nose and the stern. They are separated from each other structurally. A special bulkhead exists for this. The nose part of the hull is called the engine compartment. And this is absolutely correct since it contains the engine with all auxiliary systems and mechanisms. The stern part has received the name of fighting compartment. It contains the armament with ammunition, sights and observation instruments, radio, all levers and pedals of the control instruments, and the crew.

The self-propelled gun possesses good maneuverability and, in particular, trafficability. In fact, the battlefield is not an even surface. And in the enemy's rear area, where the ASU-57 must operate, you will not always move "with the breeze" over a good road. On the contrary, quite often various obstacles arise in the path of

movement: pits and ruts, hills and gullies, swampy or snow-covered sectors, water obstacles, and so forth.

Just what is the trafficability of the self-propelled gun? A ditch or trench up to 1.4 meters wide does not stop it--it crosses it from the march. And really, it can take a vertical wall with a height of up to 0.5 meters. The ASU-57 can cross a water obstacle only by fording; it is unable to float. But even the fording depth of such a combat vehicle is sufficiently great--up to 0.7 meters. The fighting vehicle's specific ground pressure is an insignificant value-- $0.35 \text{ kg/cm}^2$ . This is much less than the specific ground pressure of a person. A track assembly with the width of each track of 204 mm is employed. This is why the self-propelled artillery gun can move successfully over swampy terrain and loose and snow-covered sectors.

The track assembly easily "carries" the armored vehicle. In low gears it can successfully cross steep slopes and the maximum angle of rise may reach 30 degrees. When moving across a slope a heel of up to 24 degrees is permitted.

The mean speed of the ASU-57 over a dirt road is 20-25 km per hour, over highways--up to 30-35 km per hour. The maximum highway speed is 45 km per hour. The range is 250 km.

As is known a tremendous recoil arises when firing. A double-baffle muzzle brake should brake the tube. The operating mechanism here is as follows: as soon as the shell flies out of the bore, the powder gases which follow it strike the walls of the muzzle brake openings and push it forward together with the tube. In this way, the recoil energy is also partially absorbed. And this, in turn, provides the opportunity to make the recoil systems more compact. Therefore, on the whole the overall dimensions of the airborne gun were small: length without the cannon--less than 3.5 meters, width--a little more than 2 meters, height with canvas cover--about 1.4 meters. And if the shield is dropped, which the crew can easily do, the ASU-57 is made even squatter. Its height will become only 1.18 meters--virtually to the belt of an adult person. All this in combination gives the self-propelled gun one quality of no small importance--the fighting vehicle can easily be camouflaged on the terrain.

The crew of the self-propelled artillery gun consists of three men: chief of section, driver-mechanic, and loader. The duties of gunner are accomplished by the ASU-57 chief of section. He is also the radio operator.

The crew is located in the fighting compartment, in which regard the seat for the chief of section is located forward and near the left, and the seat of the driver-mechanic--forward near the right sides. The loader is located behind the driver-mechanic on his own seat.

The duties of the driver-mechanic are varied and not simple. Special attention is required of him when the chief of section conducts fire.

For example, the command is given: "Short"--this means that the driver-mechanic should stop the self-propelled gun so the chief of section can fire at the target. Rigid rules and standards exist here. The duration of a short halt should be no more than 4-6 seconds. A large volume of work is accomplished in this time segment.



Having heard the command, the driver-mechanic cuts back the number of engine revolutions, shifts into the lowest gear in which the vehicle can move out under the given conditions, turns it in the direction of the target and then stops. But in no case does he disengage the transmission! We note that if the gun was not loaded, the loader takes the shell from the shell rack and sends it into the bore. As soon as the round thunders the driver mechanic, without waiting for the command and without delay, begins the movement of the self-propelled gun. The chief of section, driver-mechanic, and loader must operate in a very coordinated manner.

The fighting compartment is protected by armor. By the way, the designers also envisioned the armoring of the gun's firing port. This is armored protection of the so-called spherical (globular) type which prevents bullets and fragments from landing in the fighting compartment through the port.

The radio in the ASU-57 is in the fighting compartment--in front of the seat of the chief of section. The R-113 is a telephone-type transceiver with frequency modulation. It is intended for operation with a spike antenna of from one to four meters high. With good audibility conditions it can "catch" a correspondent who is located at a distance of up to 20 km.

What is especially valuable in this radio? It is the possibility to establish communication, figuratively speaking, without search and fine tuning. The designers envisioned 96 fixed frequencies which are located every 25 kHz from one another. This is very convenient. Search-free entering into communication and fine-tuning-free communication are ensured on any fixed frequency. Of course reception and transmission are conducted on a common frequency.

Work on the radio is extremely simple. On the chief of section's head is an interphone headset in which telephones and throat microphones are installed. So you turn it on and enter into communication.

The R-120-type tank intercom for three users is envisioned for internal communication. The crew members converse freely among themselves, and this despite the fact that there are noise, vibrations, and din all around.

In concluding the talk, we stress that the airborne self-propelled gun is a reliable "helper" for the "winged infantry" and is able to accomplish the most varied missions in contemporary battle successfully.

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